College and Life

Problems of Self-discovery and Self-direction

by **M. E. BENNETT**

*Consultant on Orientation, Pasadena Junior College
and Director of Student Personnel, Pasadena City Schools*

WITH THE EDITORIAL COOPERATION OF

LEWIS M TERMAN

Professor of Psychology, Stanford University

THIRD EDITION

SECOND IMPRESSION

COLLEGE AND LIFE

PREFACE

Readjustments for individuals, institutions, and nations are inevitable today. All college students, whether high-school graduates, veterans, or former war or civilian workers, are confronted by new conditions and must reconsider their earlier plans in the light of the emerging world of tomorrow. The Third Edition of *College and Life* has been prepared to help these various groups of students meet their problems.

The fundamental purpose of the book remains the same as in previous editions, *viz.*, to help students make the best use of their opportunities in college and to guide them in the study and solution of problems of life planning and adjustment. This purpose has been the criterion for the selection of topics and the organization of materials. As an aid to the attainment of this purpose, numerous inventories have been included in the discussion to guide the student in applying his learning to the study of his own related problems and to the planning of suitable activities.

The materials of the Second Edition have been thoroughly revised, reedited, and largely rewritten. Research in fields contributing to guidance or personnel work, pertinent experiences of schools, government, and industry during the war and in reconversion to peace, and projected economic and educational planning for the future have been utilized in preparing this edition. New material has been added pertaining to the social, economic, and health needs of students, methods of learning, methods of self-appraisal, and problems of mental hygiene, vocational planning, and world citizenship. As in previous editions, vocational guidance forms a thread running throughout the book. The chapter that deals specifically with vocational planning draws upon materials in the two chapters on self-appraisal, the portions of Parts I and II dealing with educational planning, and those portions of Part III dealing with life adjustments affecting vocational efficiency. The Appendix

contains new census data on occupational trends. Available reports on the utilization of man power and the experiences of the armed forces with training and mental-hygiene problems in World War II have been drawn on where they shed new light on phases of planning and adjustment for college students. Suggestions from many students and instructors using earlier editions have been incorporated in this revision.

The approach to all questions is through objective study. The planning of suitable activities is directed toward self-realization and the prevention of maladjustment rather than toward the study of maladjustments. Our understandings about many of the situations posited are insufficient to justify authoritative pronouncements. However, each student will, of necessity, face most of these situations and make some kind of adjustment to them. It is the author's faith, expressed in earlier prefaces and strengthened by subsequent experience, that wise guidance in the formulation and analysis of life problems and in the application of pertinent data to their study is the best insurance against maladjustment. This method is also the most constructive contribution that can be made to effective self-direction—the ultimate goal of all guidance. This objective cannot be reached merely through the acquisition of information. A serviceable technique of studying and solving problems is also required.

Study and informal class discussion of topics dealt with in this book combined with personal applications as outlined in the inventories will invariably reveal individual questions that require personal interviews. The instructor is in a favorable position to counsel effectively with members of the group, since class study provides mutual understandings as a basis for the interview. An experimental investigation of guidance activities in one institution showed that in acquisition of information, in planning, and in college adjustment results were superior for those students who had a combined group guidance and counseling service through one counselor to the results for those who had the counseling service alone. Also, the measured outcomes of intensive group study of problems with a counselor were superior to those of lectures or discussions without planned study and counseling.

The author is deeply grateful to Dr. Lewis M. Terman, of

Stanford University, for his helpful counsel and criticism. The approach to group guidance in this book had its inception in studies begun under the direction of Dr. Terman, who has guided the preparation of materials for both the original edition and the revisions. Dr. Harry D. Kitson, of Teachers College, Columbia University, contributed valuable suggestions for both the original edition and revisions.

Miss Frances Pryor of the Pasadena City Schools, Pasadena, California, reedited this Third Edition for style and condensation and made many helpful suggestions from her experience in guidance work. Appreciation is expressed to Dr. John A. Sexson, superintendent of schools; Dr. George A. Merideth, deputy superintendent of schools; Dr. John A. Harbeson, principal of the Junior College; and members of the administrative and counseling staff of the Junior College, Pasadena, California, for their contributions to the development of a group-guidance program and hence to the preparation of these materials. Appreciation is likewise expressed to Professor Edgar E. Robinson, of Stanford University, under whose leadership the author secured valuable experience in orientation work.

Grateful acknowledgment is made to Dr. Louise Snyder Johnson, Los Angeles City College, for many helpful suggestions for the revision and for contributions indicated in the text; to Miss Winifred Skinner, Librarian, Pasadena Junior College, for collaboration on Chap. XII; and to Mr. Stephen C. Clark, Jr., of Yale University, for contributions to Chap. XXVII.

Thanks are due to authors and publishers for their permission to use certain materials. Special acknowledgment is made of the courtesy of Dr. A. F. Hinrichs, Acting Commissioner, Bureau of Labor Statistics, U. S. Department of Labor, in permitting the use of census data prepared for counselors.

M. E. BENNETT.

PASADENA, CALIFORNIA,
June, 1946.

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BUILDING A LIFE

INTRODUCTION

When **Dr. Bennett's** *College and Life* was first published thirteen years ago, it set a new standard of excellence as a college text in orientation courses. The popularity of the book was such that a revised edition was called for in 1941, and this was widely acclaimed as a genuine improvement over the first. And now the momentous events of the last five years have made necessary a third edition, which has turned out to be the most gratifying of all. The fundamental purpose of the book remains the same, but it has been so extensively rewritten that both in content and style it has the freshness of a new book.

The social and educational upheavals incident to war and the reconversion to peace have posed new problems and provided new techniques that must be taken into account in the counseling and guidance of students. Dr. Bennett is fully cognizant of these changes and has reshaped the book with them in mind. In its present form it is not only a better text for the returned veteran, but is also a more adequate guide to the orientation of any student. Social and political philosophies are in the crucible. Industrial technology is opening up new vocations and reducing the importance of some of the older ones. Educational practice is stressing increasingly the necessity of utilizing fully the nation's resources of talent. There was never a time when it was so important, both to the individual and to society, for every student to make the most of his potentialities.

Especially to be commended is the author's objective approach to every question. There is no preaching or sentimentality. The constant aim is to direct the student's thinking and activities toward self-realization and the prevention of maladjustment. The author rightly believes that the best insurance against maladjustment is wise guidance in the formulation of life problems and in the application of pertinent data for their solution.

<div align="right">Lewis M. Terman.</div>

PART I

LIVING IN COLLEGE

COLLEGE GOALS AND VALUES

Why are you going to college?

Perhaps you have already answered this question. You may have planned on coming to college for many years and may know exactly why you are here and what you expect to gain from your college life. You may have engaged in work or military service since leaving high school, and this experience may have led you to set new goals for further education. Or perhaps you have merely accepted attendance at college as the traditional thing to do and have not fully considered other reasons for coming. If your motives for entering college are clear cut and in harmony with the opportunities provided for the realization of goals, you are not likely to be discouraged by the inevitable problems to be met during the first few weeks.

Entrance into college is an exciting experience, but it may also be a terrifying one with so many new faces and unaccustomed surroundings and with new adjustments to be made. It is not surprising that some students question the wisdom of the step that they have taken and say to themselves—perhaps to others—"What am I doing here, anyway?" Whether said jokingly or in earnest, it is a question that college students must answer. Failure to do so places them in a position that has been compared to that of "passengers on a steamship speeding through fog with an empty pilot house." How many are doomed to be shipwrecked?

According to past records about one-half of any freshman class continue through four years and graduate Some who drop out discover that they are unsuited for the rigorous intellectual activities of college; others may be handicapped by circumstances, poor work habits, or lack of interest. Fortunate are those who discover early that their strongest assets cannot be developed in college and enter other training schools or suitable work. A truly democratic society respects all

kinds of human ability and requires leadership and service in all phases of human activity. Also, colleges and universities differ widely in their objectives, standards, and programs. Therefore a student should seek answers to two questions: Should I go to college; and if so, what college should I attend?

College enrollments are changing rapidly, but probably you are one of approximately fifteen out of one hundred young people of your age who now go to college. In other words, you are one of a selected group; but pride in being in college should be tempered by the knowledge that for each of you there is probably another with equally good academic ability who could not come to college because of economic or other handicaps.* However, you should frankly and proudly face the fact that you are a highly privileged member of the American youth group. But why? And for what purpose?

Our reasons for doing most things are many and often difficult to understand. Some are trivial or of a nature that we may not wish to admit even to ourselves. Early influences that have surrounded certain activities with glamour may not be recalled, and we naturally prefer to give for our choices of action reasons that reflect intelligent and mature judgment rather than sentimental or childish attitudes. If we recognize these difficulties and try to be honest with ourselves, we are more likely to approach an understanding of our real motives.

Personal Inventory

When you examine your motives for attending college, you will doubtlessly find them to be numerous and of varied strength. Some of the reasons frequently given by students for going to college are listed below. Which of them may have influenced you? What are other reasons not included here? Make a list of what you think

* This situation may change in the years ahead if the predictions of the National Resources Planning Board in their 1943 report materialize. They suggest as a reasonable working hypothesis that to serve the needs of society, 40 per cent of all youth of junior-college age should be in college or a technical institute. This would mean an increase of 130 per cent over the 1940 enrollments in the first two years beyond high school. National Resources Planning Board, "Security, Work and Relief Policies, 1942," *National Resources Development Report* for 1943, Part 3, Washington, D. C., 1943.

your reasons are for attending college. Try to be honest with yourself, and include all of them.

To please my parents.

To uphold family traditions.

To be with my friends.

To follow the advice of teachers or counselors.

To increase my prestige or raise my social status.

To equip myself to earn more money.

To have a good time.

To "make" a society.

To form college friendships and associations.

To improve my ability to associate freely and easily in different social situations.

To participate in athletics or other extracurricular activities.

To prepare for a vocation.

To satisfy my intellectual curiosity through college study.

To understand myself better and improve myself.

To increase my understanding about life

To improve my ability to contribute to human welfare.

To increase my effectiveness and happiness in living.

To demonstrate that I have the ability to do college work successfully.

Because of evidence that I have the ability to do college work successfully.

To become a better citizen.

To develop ability as a leader.

Because my expenses are being paid.

Because it is the easiest thing to do.

Because of the lack of other definite plans.

(List any others.)

Which of your reasons are really justifiable motives for spending several years in college? Keep this question in mind as we go on to a consideration of generally accepted purposes of higher education.

with problems of how to readjust purposes and programs to meet the needs of the returning servicemen and -women as well as those who enter direct from secondary schools. However, in spite of all the uncertainties and differences of outlook, there is a healthy seeking on the part of educational leaders generally for a clearer vision of what is most essential in education at all levels for free citizens in a democracy.

Upon one point there is general agreement: The citizens in a democracy constitute its greatest asset, and its welfare depends upon the fullest development and utilization of these human resources. There is increasing agreement that education in a democratic society must include common learnings that will enable its citizens to understand one another and cooperate in their mutual endeavors to realize their ideals of the good life individually and collectively. Common learnings have long been accepted for elementary education and for a large portion of secondary-school experience, but they are more novel at the college level, though many institutions have for years required certain courses of underclassmen. The newer aspect of present-day programs of general education in many colleges is the greater emphasis upon preparation for intelligent, responsible citizenship in a free society. Our encounters with totalitarian governments and with our internal social and economic problems have accentuated the need for greater effort and vigilance directed toward the maintenance and improvement of our way of life.

We are likely to accept, without due appreciation of its meaning in our lives, the emphasis in our education upon the fullest development of the individual, a point of view that stems from our democratic respect for individuals and concern for their highest good. Individuals are significant in a totalitarian order only for their services rendered to the state. Of course, the value and dignity of a democratic citizen imply his reciprocal respect and concern for all others and his sense of responsibility for using his developed powers for the common good as well as for his own satisfaction. Human experience suggests that these two uses are thoroughly interdependent.

Our records portray his hopes and fears, successes and failures, knowledge and superstition, loves and hates, his dreams, faiths, beliefs, rules of action, tools of learning and communication, and all the myriad works of mind, hand, and human interplay. Our present civilization is the resultant of these centuries of human experience and cannot be understood except in the perspective of its past. No one person can hope even to glimpse the full vista of this past or to master more than a small fraction of accumulated knowledge. *But each generation must have its leaders who will attempt to appropriate that part of our vast heritage which seems to have most bearing on present conditions and use it for the enrichment of our common life as well as for their own personal good Some of these leaders will add to our store of tested truths; others will improve our ways of using these truths. Some of the potential leaders may become merely hoarders; others may lose interest in the search and turn back. Those who persist should develop their intellectual powers as well-tempered tools to help carve out new patterns of living.*

One of our great educational and political leaders caught a vision of an ideal college as well as of an ideal world. This leader thought of college as

A place where ideals are kept in heart, in an air that they can
    breathe;
A place of worship, work, and play for the youth of every clime.
List to the spirited rhythm of youth, humanity's pulse at its best,
Intermingled with beats of a slower sort, the rhythm of wisdom and
    age.
Youth and age, together, tread trails of the past, the trails that the
    race has trod.
Together they reach the steepest heights to see the promised land,
The land of humanity's hopes and dreams, the home of the spirit
    of man.
Together they pray to the God of their faith to make their vision
    clear,
To cleanse their hearts and prepare their minds, for the tasks of

No notes of selfishness, pride, or place must mar this harmony;
Detached from the world, yet in it still, Youth prepares to serve the
race.

How can students make the most of these college years?
"By finding themselves" is one answer that would have been
given by the leader, whose vision has been imprisoned, perhaps
feebly, in the above word picture. In his message entitled
When a Man Comes to Himself, Woodrow Wilson described in
the following passages the one who has found himself:

He has learned his own paces, or, at any rate, is in a fair way to
learn them; has found his footing and the true nature of the "going"
he must look for in the world; over what sorts of roads he must ex-
pect to make his running, and at what expenditure of effort; whither
his goal lies, and what cheer he may expect by the way. It is a
process of disillusionment, but it disheartens no soundly made man.
It brings him into a light which guides instead of deceiving him; a
light which does not make the way look cold to any man whose eyes
are fit for use in the open, but which shines wholesomely, rather
upon the obvious path, like the honest rays of the frank sun, and
makes traveling both safe and cheerful. . . .
Surely a man has come to himself only when he has found the
best that is in him, and has satisfied his heart with the highest
achievement he is fit for (256, pp. 2-4, 6).*

Ernest DeWitt Burton, former president of the University of
Chicago, expressed as follows his judgment of the chief purpose
of the college:

A college ought to enable all its students to place themselves in
the world, to recognize where they are. It ought to help each
student to acquire such a knowledge of the physical universe, of the
history of the race, of the structure of society, and of the nature of
the individual, that, taking his stand at the center of his own being,
he may have a sense of where he is. . . . The business of the college
is to develop personalities that are equipped to participate fully in
life and to make large contributions to life.†

This idea of orientation in the world as an objective of a
liberal college education has been expressed by many educa-
tional leaders and has also been coupled by many with the idea

that no education can be truly liberal that does not ultimately prepare the student to earn a living as well as to live more effectively.

There is considerable disagreement in both theory and practice about vocational preparation. Some educators claim that it has no place in the liberal arts college; others stress its close interrelation with general or liberal education at all levels. This much can doubtless be said without controversy· The student's self-discovery and his fuller understanding of the present-day world, which are achieved in college, should provide excellent foundations for sound vocational planning and training and for vocational adjustment throughout life in our changing civilization.

It is quite generally recognized that in the traditional four-year college the vocational objective should not receive major emphasis before the latter half of the college course. Some educators would assert that the full four years of college are distinctly cultural and intellectual in emphasis and that vocational training belongs to the professional and technical schools.

However, the creation within many four-year colleges of lower and upper divisions and the establishment of required courses in the lower division, or first two years, are evidences of the recognition of differences in purposes of the first and last half of the traditional college period. The rapid development of junior colleges and the elimination in some universities of the lower division are additional evidences of the emphasis upon orientation in the thirteenth and fourteenth years of school and upon professional or technical training beyond these years. The new type of four-year junior college, which combines the last two years of high school with the first two of college, is based upon the theory that these four years constitute for many the period of general college training.

All educators would agree, undoubtedly, that the lower division, or junior-college, student should have developed fairly definite vocational aims and avocational interests before the end of this period of schooling. In our democratic system of education in America the junior colleges are recognizing their responsibility for affording vocational as well as cultural train-

colleges and will, doubtless, be expanded in the future. However, recent statements by leading educators in the fields of medicine, law, engineering, architecture, teaching, nursing, and social work all agree in stressing the need for a broad general education as a foundation for successful specialized training as well as for greater effectiveness in future work and living (164, pp. 217-275).

What are the objectives of your college or university? These may be stated in bulletins, handbooks, or special reports. Your president or dean may explain them during an orientation program. You should secure copies and study them thoughtfully. Note where your institution stands with respect to present trends in general college education. Also note which objectives harmonize with your personal goals for college and what discrepancies, if any, exist between the two.

Inventory of Educational Goals

The following list of objectives of education in a democracy was formulated by the Educational Policies Commission, a group of distinguished leaders in education in the United States. As you read the list, consider to what extent you have already achieved these objectives in your previous education. For each of the four major groups of goals write out what you think your college experience may contribute.

The Objectives of Self-realization

The inquiring mind: The educated person has an appetite for learning.

Speech: The educated person can speak the mother tongue clearly.

Reading: The educated person reads the mother tongue efficiently.

Writing: The educated person writes the mother tongue effectively.

Number: The educated person solves his problems of counting and calculating.

Sight and hearing: The educated person is skilled in listening and observing.

Health knowledge: The educated person understands the basic facts concerning health and disease.

Health habits: The educated person protects his own health and

Public health· The educated person works to improve the health of the community.

Recreation· The educated person is participant and spectator in many sports and other pastimes.

Intellectual interests: The educated person has mental resources for the use of leisure.

Aesthetic interests: The educated person appreciates beauty.

Character: The educated person gives responsible direction to his own life.

THE OBJECTIVES OF HUMAN RELATIONSHIP

Respect for humanity: The educated person puts human relationships first.

Friendships: The educated person enjoys a rich, sincere, and varied social life.

Cooperation· The educated person can work and play with others.

Courtesy: The educated person observes the amenities of social behavior.

Appreciation of the home: The educated person appreciates the family as a social institution.

Conservation of the home: The educated person conserves family ideals.

Homemaking. The educated person is skilled in homemaking.

Democracy in the home· The educated person maintains democratic family relationships.

THE OBJECTIVES OF ECONOMIC EFFICIENCY

Work: The educated producer knows the satisfaction of good workmanship.

Occupational information· The educated producer understands the requirements and opportunities for various jobs.

Occupational choice: The educated producer has *selected* his occupation.

Occupational efficiency: The educated producer succeeds in his chosen vocation.

Occupational adjustment The educated producer maintains and improves his efficiency.

Occupational appreciation: The educated producer appreciates the social value of his work.

Personal economics: The educated consumer plans the economics of his own life.

Consumer judgment: The educated consumer develops standards

Efficiency in buying: The educated consumer is an informed and skillful buyer.

Consumer protection: The educated consumer takes appropriate measures to safeguard his interests.

THE OBJECTIVES OF CIVIC RESPONSIBILITY

Social justice. The educated citizen is sensitive to the disparities of human circumstance.

Social activity: The educated citizen acts to correct unsatisfactory conditions.

Social understanding: The educated citizen seeks to understand social structures and social processes.

Critical judgment: The educated citizen has defenses against propaganda.

Tolerance: The educated citizen respects honest differences of opinion.

Conservation: The educated citizen has a regard for the nation's resources.

Social applications of science: The educated citizen measures scientific advance by its contribution to the general welfare.

World citizenship: The educated citizen is a cooperating member of the world community.

Law observance: The educated citizen respects the law.

Economic literacy: The educated citizen is economically literate.

Political citizenship: The educated citizen accepts his civic duties.

Devotion to democracy: The educated citizen acts upon an unswerving loyalty to democratic ideals.

You are likely to enjoy reading the interesting descriptions of these goals in *The Purposes of Education in American Democracy,* by the Educational Policies Commission, Washington, D. C., National Education Association of the United States and the American Association of School Administrators, 1938 *

What are your goals in life? In what ways may college experiences prove stepping stones toward these goals?

The college years afford the richest opportunities of one's lifetime for acquiring knowledge that is basic in any understanding of life, for gaining vision and perspective as to desirable life goals, and for developing skill in the technique of

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living successfully. The shielded environment of the college, relatively free from the time- and energy-consuming responsibilities of earning a living, gives opportunity for trying out one's powers and for increasing knowledge of self through failures as well as successes.

Opportunities for friendly personal contacts with members of the faculty and students one's own age from varied home environments and for access through books to the unlimited riches of our social inheritance stored in the writings of great thinkers, artists, and scientists open the doors for a wealth of direct and vicarious experience seldom duplicated in another period of time in one's life.

These experiences should result in a broadened outlook; a deepened understanding of self, others, and conditions of life; and an increased mastery of the technique of living. Dean Herbert E. Hawkes of Columbia University emphasized the value of a college curriculum "that will in the mind of the student help him to become the kind of person vocationally, intellectually, and spiritually that he wants to be."

Inventory of Your Goals

Suggestions are included here as to possible life and college goals. Which do you accept as your own, and what others should you add? Which college goals may help you to achieve each of the life goals in your list?

Suggested Life Goals	Suggested College Goals
Good health	Improved health or physique
Maximum self-development	Increased self-knowledge and self-development
Maximum service to society	
Success in a vocation	Increased power of self-direction
Acquisition of wealth	Increased knowledge about the world
Respected social status	
Popularity, many friends	Social understanding and sensitivity
Fine friendships	
Being a good mate and parent	Esthetic appreciations
Healthy, happy children	Improved ability in self-expression
Fame	
A pleasing and livable personality	Improved ability to think soundly
	Preparation for a vocation
Understanding of life	Athletic success

SUGGESTED LIFE GOALS	SUGGESTED COLLEGE GOALS
Creative self-expression	Social success
Esthetic appreciations	Having a good time
(Add any others.)	Improved ability to get along with others
	Making friends
	Choosing a mate
	Developing many interests
	Developing a life philosophy
	(Add any others.)

Can you secure in college the experience and training suited to your needs?

The fact that individuals vary so greatly in capacities and needs means that no one type of education can serve all equally well. Each college student not only should attempt to find the work that is best for him but should realize that education is not something to be acquired or absorbed but the result of active striving and experience. It has been aptly said that "education is the process by which each individual out of his own awareness builds his world."

Successful and profitable work in college depends on many factors. This has been demonstrated by a great deal of research on the problem of who should be admitted to college. Results have shown that a combination of several types of information about candidates for admission yields better prediction of probable success in college than any one item. Among these are intelligence- or scholastic-aptitude-test records, marks in high-school subjects, achievement-test records, and various personality traits, such as persistence or drive, interests related to college fields of study, reading and study skills, and vocational goals. The educational and vocational readjustments faced by veterans and war workers of World War II prompted the development of batteries of competence or proficiency tests in major areas of high-school and college study. Such tests may be used increasingly to help place individuals at levels where they can work most profitably. In general, colleges and universities are seeking for students who give promise of total capacity—mentally, physically, emotionally, and socially—to profit from college experience and to use their developed powers in the service of society.

Colleges differ widely in the criteria that they use for selecting students. Also, the actual requirements for successful work are markedly different in various institutions and in schools or departments within any one institution. These facts place upon the student the responsibility of selecting a college that can provide for his needs and of planning his program of study and other activities wisely. Comprehensive cumulative records of achievements, abilities, and personality trends, such as schools are now making, can be very helpful to an individual when interpreted by a trained counselor. Training and service records of men and women in the armed forces during World War II were thus used by counselors at separation centers If you have not yet been informed about the data on your high-school, college, service, or other personnel records, you should ask for their interpretation by your counselor and for assistance in appraising the wisdom of your present plans and program. If your records should contain unfavorable data, such as a poor scholastic record, it would be wise to consider whether the difficulty can be charged to lack of effort, poor work habits, or some temporary conditions or may be indicative of the unsuitability of your projected training program. Many who have unwisely attempted college and left with an unhappy sense of failure might have been highly successful in training or work suited to their abilities. The same principle holds true for those who attend college with successful results.

CRITERIA OF COLLEGE SUCCESS

The items listed below were used as criteria of the success in college of the graduates of some experimental high schools. Many sources of evidence were used in attempting to judge how well these students had succeeded. How do you think you will rate on each of these factors while you are in college?

1. *Intellectual competence* as evidenced in scholarship, intellectual curiosity and drive that carries you beyond course requirements, use of the scientific approach in work and thinking, effective study skills and habits.
2. *Cultural development* as evidenced in the use of leisure time in the arts, such as music, concerts, writing, dramatics, painting; athletics and sports; other student activities, such as management, forensics, publications, or social activities; social-service and church work; hobbies.

3. *Practical competence* as evidenced in ability to handle personal or group financial problems; ability to obtain and keep a job, if needed; environmental adjustment in the college and community; effective distribution of time.

4. *Philosophy of life,* or personal pattern of goals, as evidenced in vocational planning, reasons for attending college, ethical standards and ideals, religious attitudes, tolerance.

5. *Character traits* as evidenced in such characteristics as integrity, responsibility, and initiative.

6. *Emotional balance* as evidenced in general factors such as self-control, self-confidence, sense of humor, independence; family relationships; adjustment with other students; religious outlook.

7. *Social fitness* as evidenced in ability to keep friends, poise and manner, social accomplishments, taste in dress, grooming.

8. *Sensitivity to social problems* as evidenced in concern about campus issues; awareness of contemporary social, economic, and political problems; ability to criticize intelligently; willingness to assume responsibility of citizenship and to make personal sacrifices.

9. *Physical fitness* as evidenced in health habits, participation in suitable sports.*

Does college training represent a good investment of time and money?

It has been estimated that, on the average, the college student pays about 43 per cent of the cost of his education. The remainder is met by the large expenditures of government or of endowed institutions. Therefore, this question of investment is twofold: Will it pay dividends to the individual and also to society?

The cost to the individual varies in different regions and institutions and with general changes in cost of living. Estimates of typical or minimum costs are given in some of the listed references (58, 148, 241). Further current information may be secured from college catalogues or direct from

* Adapted from criteria listed in *Did They Succeed in College?* by Dean Chamberlin, Enid Chamberlin, Neal E. Drought, and William E. Scott, New York, Harper & Brothers, 1942, pp. 214–220. You may be interested in reading this account of the achievement of the students included in this study.

college officials. Knowledge of the range, from minimum to maximum, in student expenditures within an institution may help an individual to determine wisely what are justifiable expenses for him beyond fixed costs (see pages 58 to 59).

Does this investment of money pay in value received? The answer for any particular individual depends, of course, on how much he realizes upon his investment and also on what values he tries to measure. Just going to college will not ensure any return value unless one is able to benefit from the experience. Also, the returns in personal satisfactions and in service cannot be estimated in dollars and cents. The earning power of college graduates is only partial and very limited evidence of the value of college training.

Everyone knows of individuals without college training who are earning more than some college graduates; so it is obvious that the most easily measured value, increased earning power, cannot be an assured outcome of college training. Studies of the comparative incomes of people with varying degrees of education have shown, however, general trends as regards income to be in favor of the college graduate (100). A survey made in 1936 by the Office of Education of the economic status of college alumni of thirty-one universities showed typical median salaries eight years after graduation of $2,383 for men and $1,606 for women. A comparison in 1939 of the income distribution of college-graduate families and individuals living alone with the same picture for all United States families and individuals living alone yielded a marked differential in favor of college graduates.*

* This survey, conducted by the Reader Research Department of Time, Inc., and reported by Lawrence F. Babcock in *The U S College Graduate*, New York, The Macmillan Company, 1941, yielded the following comparison of percentages of each group reaching certain income levels:

Level of income	For college graduates	For entire United States
Under $1,000	4 1	46 5
$ 1,000–$1,999	23 9	35 3
2,000– 2,999	25 9	11 2
3,000– 4,999	27 0	4 6
5,000– 9,999	14 6	1 5
10,000 and over	4 5	0 9

Of course, one cannot conclude that the tendency toward higher than average incomes of college graduates is due solely or even chiefly to the college training. Differences in individual ability and personality and variations in opportunity for financial returns in different occupations affect income regardless of degree of education. The influence of personality upon earnings is suggested by the fact that among a group of graduate engineers who had been employed for five years, those who were rated in the highest third of the group in certain traits of personality were earning on the average nearly a thousand dollars more per year than those who rated in the lowest third of the group (32).

Another type of measurable evidence of the value of a college education is the eminence or recognized success of college graduates. Inclusion within *Who's Who in America* has been used in some studies as one criterion of eminence or outstanding accomplishment. Of the 32,153 individuals who supplied educational data for their sketches in the 1944-1945 edition, approximately 89 per cent had attended college and 74 per cent had graduated. Almost ninety out of every hundred in this edition attended college. The comparison of various editions of *Who's Who in America* has shown a steady increase in the percentage of college-trained people included, a fact interpreted by the compiler of these statistics as due to the increasing demands in modern life for more highly educated leaders. The same caution is needed in interpreting these data as in those related to income. Native ability and many extraneous factors undoubtedly play their part, together with education, in determining an individual's achievement.

Beyond doubtful possibilities of increased earning power or of eminence lie those values inherent in a life enriched by deeper understanding, finer appreciations, and wider scope of activities. These values are not so easily measured as the other more tangible ones, but they are probably more certain of attainment by college students who desire them and strive for them. "Chief among our educational institutions the liberal-arts college has been dedicated to the principle that man does not live by bread alone." *

* *Rollins College Bulletin*, 26, No. 8, February, 1931.

The following questions should help you to judge whether or not your interests are in line with your opportunities in the most important aspects of your college experiences:

Do you have a real desire and eagerness to study and think about things in which you are interested?

Are you curious about the nature of the physical world in which we live and how it affects our lives?

Are you interested in studying about life in its different forms?

Are you interested to know much about the experiences of the human race in the past and to understand how we have come to be as we are today?

Should you like to understand better the intricate human relations involved in our present economic, political, and social order?

Should you like to understand better why you and other human beings think, feel, and act as you do in the varying conditions of life?

Do you like to learn the languages of other nationalities?

Are you interested in becoming familiar with the best creative expression of the human race in literature, music, and the fine arts?

Are you interested in thinking about how present conditions of living can be improved, in discovering new truths through research, or in writing or other forms of creative expression?

Are you interested in improving your technique of thinking and of expressing your ideas, or are you much more interested in doing than in thinking?

What is your evidence that you possess the qualifications needed for successful college work?

In attempting to answer the last question examine the evidence that you can marshal on the following points:

> Interests and life purposes in line with opportunities in college.
>
> Ability to do college work creditably as evidenced by your scores on intelligence or scholastic-aptitude tests, or achievement tests; scholarship rank in high school, judgments of qualified persons; work habits.
>
> Ability to work successfully in specific fields of college study, such as English, foreign languages, sciences, social sciences, mathematics. (Add others.)
>
> Ability to participate effectively in student life
>
> Health adequate for engaging in college activities.
>
> Adequate financial resources: sufficient funds to cover at least first-semester costs; ability to spend time and energy earning money, if necessary.

If a good share of the evidence is negative, you are probably justified in questioning seriously if college will give you the training and life experiences that you should have at this time. Of course, some of the conditions listed can be changed with intelligent effort. Work habits and background training may be improved; social facility can be acquired; and time taken out for earning money is not fatal—in fact, it often gives opportunity for the maturing of interests and purposes. Summarize the reasons why you think that you should or should not continue in college.

SUGGESTED READINGS (see Selected References, pp. 471-483): 7; 9; 79; 131; 148, pp. 3-84, 141-234; 151; 198; 241; 256.

CHAPTER II

PROBLEMS OF SELF-DIRECTION

What are the problems of adjustment in college?

Freshmen usually have an undifferentiated feeling of shyness, loneliness, and unhappiness, according to a statement of a consultant in one large university. Each is facing the challenge of making a place for himself in a new group, of winning social acceptance and approval, and of succeeding scholastically. Each comes with different motives and expectations that may or may not be fulfilled satisfactorily in the college environment. Unresolved conflicts related to home or other personal adjustments may prevent the full direction of attention to immediate adjustments and thereby cause difficulties to pyramid.*

Students who have been in military service have frequently commented upon the inner resistance encountered in changing back to civilian life where they must make more decisions and meet personal needs on their own initiative. The adjustment of the adolescent who is learning to be self-dependent is somewhat similar to that of the ex-serviceman. The adolescent wishes to be free of parental and other control, but he does not find it easy to give up the benefits of childish dependence and to assume responsibility along with the greater freedom that comes with adult status.

Students who have had their educational careers interrupted are likely to encounter special problems in adjusting to a campus life. However, most institutions are altering their programs to meet the needs of varied ages and experiences of student populations today. The older students have much to contribute and much to gain through the college life if they recognize their responsibilities as adults in a group that, in the early college years, is primarily adolescent.

* Fry, Clements C., *Mental Health in College*, New York, Commonwealth Fund, Division of Publications, 1942, pp. 174-272.

Problems—Unselected groups. Several thousand students at one university were given a list of problems and were asked to check those about which they wanted advice. The problems and the percentage of students checking each are listed below·*

	Per cent
Problems of own personality	30 3
Choice of vocation	23 3
Choosing program of study	18.3
Getting out of a difficulty	16 0
Methods of study	12 1
Sex knowledge	11 6
Changing courses	11.5
Religion and philosophy of life	11.2
Self-support	9 9
Choice of fraternity	8.3
Campus activities	8 0
Love and marriage	7.7
Sex hygiene	7 3
Nervous or mental trouble	6 3
General health	6 1
Political questions	5 1
Participation in athletics	5.0
Making a daily schedule	4.2

Another study of freshman and transfer students in several colleges and universities uncovered similar and also additional adjustment problems in a somewhat different order of emphasis as shown below (260, pp. 50-51):

	Per cent
Difficulty in budgeting time	58
Unfamiliar standards of work	32
Slow reading habits	30
Uncertainty about vocational goals	24
More work required	23
Required subjects	23
Confusion in selection of major	19
Time taken for self-support	18
Insufficient funds	18
Attitude of instructors	13
Use of library	13
Impersonal nature of classes	13
Impractical nature of college work	11

* Reprinted by permission of the authors, Daniel Katz and Floyd H. Allport, from *Students' Attitudes,* Syracuse, The Craftsman Press, Inc., 1931.

	Per cent
Worry about home or family. .	. 14
New independence	10
Social activities hinder study	10
Living arrangements	8
Emotional upset	7
Fraternities or sororities	7
New associates .	6
Poor health	6
Lack of student activities	5
Failure to make friends	4
Lack of medical care	1
Other problems written in .	3

Problems—Selected groups. The problems submitted by unselected groups of students, such as those mentioned above, are much the same as those revealed in a clinical study of a selected group of sophomores at Harvard University who were chosen on the basis of so-called "normalcy" with respect to health and adjustment in college. Information was secured from the young men themselves, their parents, and psychiatrists.

Of the first 100 boys who participated in the study, 91 had more or less serious problems that were recognized by the clinical staff; 72 of the students, without prompting, presented their own difficulties to the investigators; and 74 of their families raised questions pertaining to these boys in college or in their home life and relationships. Some 250 problems were identified in the study of these 100 young men.

In a nontechnical report (114, pp. 70-79) these difficulties were classified as follows:

1. Those pertaining to social adjustment: shyness, feelings of inferiority, overaggressiveness, difficulties in meeting girls or making friends. Only 15 per cent of the boys voluntarily presented these problems, but the staff discerned them in 43 per cent.

2. Adjustments to the family: antagonism against one or both parents, discipline, and unhappiness because of parental discord, divorce, illness, or death, or religious teaching in the home. About one-fourth of the students mentioned problems in this area.

3. Worries related to sex: love affairs, marriage and sex relations. Again about one-fourth of the boys expressed concern over these problems.

4. Concern about choice of career. Seventeen per cent of the students raised questions in this area.

5. Personality difficulties. Sixteen per cent of the boys requested discussions about their personalities—their apprehensions and concerns, their life values and purposes. The psychiatrists recognized the need for help with difficulties, such as mood swings, psychoneurotic traits, or other unwholesome tendencies, in 55 per cent of the cases.

6. Academic worries: organization of time, standards of work, choosing a field of concentration, and various dissatisfactions with the college. About 12 per cent of the boys mentioned these academic difficulties which were identified by the psychiatrists in 10 per cent of the group.

7. Miscellaneous problems: financial and religious problems or difficulties with alcoholism, speech, handwriting, war or racial attitudes.

It was observed that most of the problems were of a transitory nature and disappeared as the boys matured and adjusted themselves to college life. However, about one-fifth of these "normal" youths were judged to have acute and urgent problems upon which they needed help.

Skill required to recognize problems. A careful follow-up by interviews of problems reported by 150 students in five different colleges revealed that many of the students did not recognize the real nature of their problems. Of the 150 problems, 61 were determined by the investigators to be of a different nature from those reported by the students (31). The counseling tended to uncover many factors not recognized by the students as contributing to their problems: home conditions causing worry or unhappiness, personal and personality maladjustments in disguise, and difficulties reported as educational proved frequently to be otherwise when analyzed. The skill needed to recognize the real nature of one's problems is difficult to acquire. Yet a person cannot solve a problem if he does not know what it is, and our minds have many devious ways of camouflaging situations. An important phase of self-direction, therefore, is to learn to recognize when outside assistance is

needed and to seek reliable sources of help.   Most colleges provide consultant or psychiatric services to aid students with these thoroughly normal and common human problems which may lead to maladjustment and unhappiness if not understood and solved satisfactorily.

What areas of adjustment are most important for success in college? In one survey * success in college was defined broadly in terms of adequate performance in ten major life areas that appeared to be important in the transition from high school to college in the order listed. personality; family and home; living conditions; † morals and discipline; scholastic ability; outreach, including interests and life plans; social background; health; religion; financial resources (104, pp. 110-112).   These investigators rarely found a student who showed either high or low adjustment in all these areas.   Practically all the students showed a wide range in their powers of adjustment.   Every college student should examine his adjustments in each of these areas to discover potential difficulties and to plan how they may be overcome.

Behavior patterns of the successful personality.   After following many students from high school through their freshman year in college, Hale and his collaborators concluded that four patterns of behavior were especially significant in making a successful college adjustment: (1) the habit of acting on the basis of well-defined purposes instead of just drifting; (2) socialized rather than unsocial or antisocial behavior; (3) ability to make well-considered decisions instead of depending on others; and (4) sensitiveness to people and conditions in the environment as opposed to obtuseness, self-centeredness, or lethargy.

Have you learned to be self-dependent?

In answering this question a student wrote, "I know that in my hands lie my physical, mental, and social well-being and my opportunity to develop what talents I have for useful work as my share to society.   It is rather frightening, but chal-

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* Lincoln B Hale and a group of collaborators studied the question for about 1,500 freshmen in forty colleges in the East and Middle West.

† Family and home and living conditions seemed to be equally significant in their influence.

lenging, to be on one's own, and I hope I can make the adjustment successfully." For this student college represents an enlarged sphere of self-directed activity, of self-dependence, and of social responsibility. How will these new opportunities and demands be met?

Aline D., shielded by solicitous parents who had always made every important decision for her, was fearful at first in the college environment and found herself quite helpless and unhappy in grappling with many baffling problems of adjustment. Elbert C., who had rather rebelliously endured strict control by parents and teachers, reacted to the wider freedom by an exaggerated effort to prove his independence and power. He created many unpleasant situations for himself before he learned to establish a desirable balance between authority and freedom. John M., a high-school senior, had been taught from early childhood to face each new problem squarely when it arose, to try to understand it and work out a satisfactory adjustment, and to accept responsibility for the results without conceit over success or self-depreciation over failure. He has learned to seek sound advice as well as to utilize his own resources. He will probably find in college a natural expansion of his life activities; and although he will meet many perplexing problems, he has developed a technique for coping with them far superior to those possessed by Aline D. and Elbert C. Where do you stand in regard to this matter?

Many of the problems of college students are the normal problems of late adolescence in particular settings. Adolescence is a transition period between childhood and adulthood and is characterized both by a desire for increased freedom and by new responsibilities. It is a period when one learns to live as an adult and when one should, therefore, develop skill in the technique of self-direction.

The college years should mark progress from childish self-centeredness toward a broad social concern for others. A fundamental problem is that of discovering what it really means to be an adult member of society. It does not take much experimentation to discover that mere independence of action is not a solution, though it often takes many years of groping and much unhappy experience to discover that facing reality, analyzing situations, reaching best judgments on the basis of study

and thought, accepting responsibility for conduct, and cooperating unselfishly with others are some of the important requisites of the adult in our modern world. Economic independence is one requisite for adulthood, and our present-day civilization with its prolonged period of training for entrance into many occupations presents the problem, especially to the college student, of postponing economic adulthood beyond the period when he may be in many other respects truly adult.

The demands upon the individual for self-direction are much greater during college life than in earlier school life because of lessened direction by instructors, the widened sphere of activity and personal responsibility, and the great diversity of choice in college studies and extracurricular activities. Also if a student is away from home for the first time, he may have problems of social adjustment and new economic, religious, or ethical problems.

Today the student faces a world in which many of the old guideposts and controls are gone. He can no longer find solutions for all his problems in the authorities that guided earlier generations, and he can secure only partial assistance from the past experience of the race. He must develop many of the controls within himself, and to do this calls for training as rigorous as the most exacting science or art. Fortunately society still solves many problems for us. Otherwise we should be overwhelmed with the task of living. The first problem in self-direction, then, becomes that of ascertaining in what aspects of life self-guidance is necessary and of concentrating on these aspects.

What are some of the requisites for intelligent self-direction?

An adequate knowledge of self. Why are you bored with one situation, intensely interested in another, fearful or anxious in another? Why do you do one task well and another poorly? Why do you become angry at one thing and pleased with another? All our reactions are clues that we should learn to interpret if we are to understand ourselves. And intelligent direction of a life must be based upon understanding of the materials to be worked with—native capacities, developed interests and abilities, and the motives or drives that impel one to action. Of course, we do not wish to bring ourselves to the

plight of the centipede that, in the oft-quoted ditty, when asked which leg comes after which "lay distracted in the ditch uncertain how to run!" But we cannot trust to instinct in our living as does the centipede.

Understanding of how to develop our capacities and control our behavior. We cannot determine our native capacities. Fate does that for us and places certain threads, as it were, in our loom of life. We can weave whatever pattern we wish that the threads allow and are to this extent the masters of our fates. There are principles of weaving, however, that we must learn, if we wish to avoid tangling up the threads. Clear thinking, emotional control and development, habit formation, effective learning, and the power of continuous adjustment are a few of the many techniques that we need to master.

Understanding of the nature of the social environment and the ability to participate effectively in group life. We are social beings and can neither exist nor grow in our early years nor maintain normality in later years outside a social milieu. Without the ability to live a mutually shared social existence we can soon wreck our personalities. On the other hand, there is the danger in our industrialized civilization of becoming mere cogs in the machinery and of losing the opportunity to develop our talents and be ourselves in the best sense of the word. To steer our lives between these two dangers calls for much knowledge and skill.

The person who does not keep himself closely in touch with the trends of economic and social change and does not adjust to them is likely someday to find himself without a means of livelihood. New industrial processes may have eliminated his work, or the demand for his services may have ceased.

Understanding, evaluation, and utilization of the social heritage. To the extent that we can or do appropriate and use it, we may all become heirs to the richest inheritance that may fall to the lot of any man—the cumulated experience of the human race. Without it we should all start as the lowest savages and progress but little, if any, beyond that stage during the relatively brief span of our individual lives. It is the foundation upon which each generation builds and to which each adds its big or little share, and it gives the perspective without which no life can be directed intelligently. A portion of this inheritance

is embodied in every college course ready for him who will appropriate it.

Life objectives. No self-direction is possible without a directive point ahead. The goal may shift as we reach new points on life's journey and gain new perspectives, but it must be there beckoning us on and not too far away to discourage us and perhaps cause us to turn back.

Standards of value for choosing worth-while experiences. Every experience plays its part, small or large, in our development. In early childhood the environment is so circumscribed that our choices of experiences are fairly limited, but in adolescent and adult years the sphere of possible choice widens until the variety oftentimes becomes bewildering. It is a rather awesome thought that, no matter how free we may consider ourselves to be in choosing new experiences, our actual choice at any time will have been determined by previous choices and experiences. This fact would seem to make us slaves to our past, but the way to freedom and self-direction lies in our ability to analyze our past experience, to gain vicarious experience through the lives of others, and through the interpretation of all these experiences to build up standards of choice that may change the trend of our lives.

The problem approach to life adjustments. The word "problem" as used here does not imply a necessary difficulty or maladjustment. The Greek derivative means literally "something thrown forward," and we might define a problem approach as the anticipation of imminent or future adjustments for the purpose of studying them in order to avoid the necessity of reacting without thought or planning.

No one is ever without problems in this world, either in the form of anticipated adjustments or in the form of present maladjustments. We grow by tackling new problems and solving them, and the person who has none is in a dormant stage. Having problems, however, does not necessarily imply being maladjusted or unhappy. It is simply a characteristic of life, which is a continuous process of *becoming* rather than a static state of *being.*

Throughout this book we shall consider numerous life problems. Some are peculiarly those of college students whereas

others are met by the majority of people. Keep in mind the following questions as these problems are studied·

What is the specific problem, and what is its probable bearing on my life?

What factors are involved in this problem, and what is the relative importance of each?

What facts do I need to solve this problem?

Where or how can I secure the needed facts?

To what extent must I utilize experience and best judgments in the absence of tested facts?

Who can help me most in thinking about this problem?

How can I check the effectiveness of my solution of the problem?

INVENTORY OF YOUR PROBLEMS

Make a list of problems that you are facing at present.

Examine each of these with respect to the seven questions suggested above to discover how many of the steps you have already taken in attempting to reach a solution.

Try to map out how you can apply the remaining steps.

SUGGESTED READINGS (see Selected References, pp. 471-483): 3, pp. 1-19, 51-65; 71; 92; 109; 114; 137; 153; 178.

CHAPTER III

YOUR NEW COLLEGE HOME

Are you fully awake to your opportunities?

College is not merely a preparation for life; it is life itself, and if lived effectively the college years may afford rare opportunities for worth-while experiences and lay the foundations for a meaningful life in later years. A student may, however, go through college and have the experience mean no more than a trip on the subways of a great city where the station signs are noted but the city itself is unexplored.

One of the first steps in realizing your college objectives is to feel at home in your college environment. This feeling of familiarity depends upon getting acquainted with your new home and the people who compose it and upon learning to play an effective part in the college life.

What are the best sources of information about your college?

If you are provided with a freshman handbook, study it carefully. Usually written by students and faculty members, such books contain not only the "do's" and "don'ts" of the college campus but much about traditions and organizations of the college Other good sources of information are official guidebooks for students or visitors, past yearbooks of senior classes, the college paper, and bulletins. Lectures and tours during the Freshman Week give much information, and upper classmen often assigned to entering students greatly assist in helping them to become oriented and adjusted. Faculty advisors or counselors help not only in the initial adjustments but in solving personal problems.

Take advantage of every opportunity that you have to become familiar with your new college home, and do not stop after the first week. More time than that is demanded to secure the information that you need; also required are an alert questioning attitude and keen observation.

31

What must you note to become familiar with your college?

The college campus. Knowledge of the campus itself should include information regarding its size, layout—whether concentrated in one area or scattered in different places, arrangement of buildings—architectural style, the equipment of libraries and laboratories, museums and art galleries, and facilities for creative and artistic experiences of a dramatic or musical nature and for sports and other recreations.

The college community. The plan of your life outside the classroom may be very different in a college located in a metropolitan area, for example, from what it would be in one secluded in a rural or small-town area. Locate the points of interest that may have recreational and cultural value.

Your place of residence. If dormitories are not provided or you are not living at home, it is important that transportation be studied to discover how much time can be lost or gained by living in various locations.

INVENTORY OF YOUR ENVIRONMENT

What are the opportunities in your college environment?

Your college campus: Draw a sketch of your campus (or utilize a map if available), locating and naming each building. Make a list of all buildings and places, and enumerate for each the available facilities that you should utilize. Prepare a second list of opportunities that you would like to have but that are not available. Try to discover why each one is not available.

The college community: Use a map of the community in which your institution is located (or make a rough sketch), and indicate on it the position in relation to the campus of points of interest in the community. Note theaters, museums, art galleries, libraries, and other places having recreational or cultural value.

Your place of residence. Indicate on the map your place of residence. If it is off the campus and you are not living at home, consider whether or not your present residence is conveniently located as to time and expense required for transportation and the fullest utilization of available opportunities. Is your room suitably equipped and arranged to provide a convenient and efficient place to study, and does it express your personality in a simple and tasteful manner?

History of college. A college, like any other institution, is the result of past development and cannot be fully appreciated without an understanding of its background. A long period as a denominational college, for example, may leave an important influence upon prevailing traditions; a long period of financial struggle or a period of affluence may have affected the nature of its equipment or its faculty. These factors should be investigated before you choose a college. When you have associated yourself with a particular college, learn its history as an aid to identifying yourself more completely and enthusiastically with its life.

The sources and extent of financial support of the college may give clues as to present trends or future possibilities for development. For example, the student interested in research would find it worth while to discover to what extent research in his particular field is supported by private endowment, scholarships, etc. Plans for expansion of the physical plant and academic, cultural, social, and athletic activities should also be of interest not only in planning your own future activities but from the viewpoint of public-spirited interest in the institution that is affording you its opportunities.

Any study of the history of an educational institution and of its present or planned facilities will be sure to reveal both strong and weak points. A student should be aware of both in order to benefit to the largest extent from the desirable features and to prevent himself from being undesirably influenced by the weak features. One weak department due to personnel or poor equipment may be a hampering influence. A strong and well-equipped department with enthusiastic leaders may, on the other hand, attract many students to a field for which they are not inherently well fitted. Understanding of these strong and weak points may prevent one from being unwisely influenced or from being blindly limited in development.

HISTORICAL QUERIES

What meaning has the history of your college for you?
> List in your notebook the outstanding leaders in the development of the institution, indicating their achievements and contributions.

> Outline the important events in the history of your institution, and note how these events have helped to make it a significant institution for you.
>
> What should you anticipate as important possible next steps in its development as a result of its past history?
>
> What have alumni contributed to your institution through achievements or services?
>
> List contributions that you think you might make.

College traditions. An educational institution that has existed for many years is sure to have accumulated a large store of traditions. New students should know them. Many traditions and customs in a college community are senseless and even at times as harmful as some that prevail in society at large. On the other hand, many of them are the result of hard-won experience or have a symbolic or emotional background and help to unify the student body.

W. H. Cowley has made a hobby of collecting information about student traditions, and reports the remarkable metamorphosis that he observed in student sentiment toward cultural interests. In his freshman year a classmate was hazed for purchasing a copy of the *Atlantic Monthly*, but in his senior year, in the face of growing cultural and intellectual pastimes, the lowbrows were unmistakably on the defensive. He distinguishes between the specific traditions that have to do with wearing apparel, customs, and ceremonials and the pervasive traditions that involve basic attitudes and human relationships, such as the honor code at Washington and Lee University and other institutions. As an example of the latter he cites a game at which more than $125 worth of lapel buttons were sold without any supervision and with no one touching the money except one customer who placed a weight on the bills to keep them from blowing away (54, pp. 29-30).

Specific college traditions give color, zest, and a sense of belonging, but they are not likely to have lasting significance unless they become symbols of ideals that pervade the life of the college community. Many time-worn traditions have recently been interrupted by the demands of war service, a condition which provides a splendid opportunity for college students to evaluate their heritage of traditions and to choose to retain only those which have real meaning and value.

Have you caught the spirit of your own college traditions, and is it in harmony with present trends? Cowley says, "As I read the college newspapers of the country it seems to me that every year more student-bodies are learning to domesticate their animal instincts and to express their group unity in cere- monies more graceful and infinitely more subtle than the bois- terous and barbarous traditions of the 'Rah Rah Boys' " (54, p. 36). Modern observers depict students interested in intel- lectual pursuits, though not living a cloistered, narrowly aca- demic existence. Today there are more students participating in varied athletic activities of a recreational type and fewer trying out for the football squad; more significant literary, dramatic, and musical activities—"doing cultural things for fun"—and less trashy vaudeville and burlesque; also there is more intelligent participation in a college political democracy and less of going out for activities just because it is "the thing."

APPRAISAL OF COLLEGE TRADITIONS

List all of the traditions of your college that you can discover. Which of these are well-established, and which fairly new? Which ones enhance your pride and love for the institution? Which seem to you valuable, and which useless or undesirable? What are your reasons for these judgments? What values can your class con- tribute to growing college traditions?

College government and democracy. Every institution has certain policies, rules, and regulations that are necessary to the orderly living together of a number of people. These should be learned as quickly as possible. If there is a demo- cratic system of cooperative regulation by both faculty and students, you should become familiar with the form of organiza- tion, its method of operation, and the names of the officials. This is merely the first step toward an active citizenship which may later involve not merely an intelligent adherence to neces- sary rules and regulations but an actual participation in their development.

A bulletin of the United States Office of Education, Higher Education Division, entitled "Practicing Democracy in the Col- lege," describes programs where faculty and student leaders are planning and working together to create within the college a social and political democracy that will help to develop trained

and responsible citizens. In some instances this planning and action extend beyond the campus into the community, and "town and gown" work together on the problems of civic betterment (149).

How well informed are you as a college citizen? What rules and regulations should all freshmen understand? What is the nature of your honor system? What form of government prevails in your institution? Who are your student-body officers, and what are their duties? Do you know how well they are performing these duties? What are the values of their services to the student body? Is your student-body government truly democratic in attempting to serve the interests of the entire student body? Does it involve any undesirable politics or undemocratic cliques? What major problems of policy are now facing your student leaders? What are the qualifications for membership and for offices in your student government?

What services should you be interested in **performing** in your college democracy? What offices should you like **to** hold? What committee work would interest you? What are the qualities of leadership that you have or that you think you can develop? Are you a discerning follower?

What are the values in faculty-student relationships?

Your first contacts with the faculty will probably be with members of the administrative personnel—the dean of men or women, the registrar, your adviser or counselor, and perhaps the president (or principal in most junior colleges). They are all there to help you. In a large institution the opening days are usually characterized by rush and hurry and necessarily brief conferences, but later many opportunities are available for friendly discussions which may help to solve your problems. You should learn what are the duties and responsibilities of each official, so that intelligent choice can be exercised in deciding to whom to go for a particular problem, thus not wasting the time of a busy official by asking for advice about matters that are not his concern. However, if you desire a conference over a personal problem with a particular individual, you will seldom find a faculty member unwilling to cooperate in a friendly, helpful way.

In the classroom and laboratory comes the opportunity for

contacts with faculty members and for their interested and intelligent guidance of your intellectual pursuits. These opportunities begin in the classroom but should not end there. A greeting as you pass in the halls, a suggestion as you meet in the library, a walk across the campus, a chat at a tea or some other social affair, a serious conference over a mutually interesting problem—and you are friends. Your professor is no longer a "voice" whose utterances you hastily transcribe in your notebook. The influence of a fine personality may be greater and more lasting than any purely intellectual experiences; though if the two influences can be combined, the possibilities for lasting value are among the greatest that life can offer.

Attempts at friendship with a professor will elicit cynical remarks from some sophisticated students who will say that such overtures are motivated by a desire to obtain favor, raise marks, give evidence of interest, or conceal lack of work. In many instances these cynics may be correct in their judgments. But the real teacher usually detects the insincere motives, and the student who is activated by them cuts himself off by his own attitudes from deriving any lasting benefit from such relationships. Do not let the fear of being thought an "apple polisher" keep you from the valuable and inspiring experience of knowing some of the great souls that, in the words of Sir William Osler, "make up the moral radium of the world."

The trend today is, happily, toward cordial faculty-student cooperation. Tutorial or house plans and faculty-adviser systems, in which groups of students work intimately with a faculty member, are now to be found in many colleges and universities. Most institutions have personnel workers whose chief concern is the welfare of individual students, and instruction is becoming increasingly personalized. Student-faculty committees are democratically studying both the curriculum and campus activities. A group of student leaders at Stanford University, organized in a seminar under the guidance of H. C. Hand, made surveys of campus activities in other universities as well as their own. They found that more than half the colleges covered by their investigation reported from one to nineteen regularly constituted committees that have among their chief purposes the promotion of better student-faculty re-

lationships. Cooperative enterprises include orienting new students; enriching social life; promoting intramural sports and the self-help program; improving campus publications, religious life, intercollegiate athletics, scholarships, and the library; administering the honor code and controlling student conduct; care of grounds and the control of traffic; revising the college curriculum; interesting prospective students; and assisting in endowment campaigns (105, pp. 97-105). Faculty and students are thus becoming coworkers in a common enterprise of learning to live more effectively.

STUDENT-FACULTY INVENTORY

Do you know whom to consult about your problems?

> List the names of persons available for consultation about the following problems: choosing courses or fields of study; choosing student activities; choosing an occupation; choosing an institution for graduate work; failure; financial difficulties; difficulties in personal relationships with instructors; difficulties in personal relationships with other students; physical fitness and health; other personal questions (list).

Which members of your faculty should you like to know better? How can you establish friendly relationships?

What faculty-student committees exist on your campus? Upon what problems are they working?

What are the values of wide acquaintance among the students?

When Thomas Jefferson went to college at William and Mary, he wrote to a relative in justification: "By going to college I shall get a more universal acquaintance, which hereafter may be serviceable to me, and I suppose I can pursue my studies . . . as well there as here."

One of the significant values of a more universal acquaintance is the wider sphere of choice of intimate friends. Not everyone can be universally popular. Popularity is elusive. It seems to come easily and naturally to some, is hard won by others, completely eludes some who desire it, and is not even sought after or desired by others. There is no normal human being, however, who does not desire intimate friends with whom he can share his thoughts and feelings and with whom he can

engage in interesting activities. The inability to make or keep such friendships is sometimes a source of extreme unhappiness.

What will your criteria be for the choice and cultivation of intimate friends?

A difficulty sometimes encountered in student friendships arises out of differences in economic or social status. The student favored in these respects who places them above friendship values may well be considered unworthy of the friendship if there are no other deterrents. The student who is severely limited financially, however, may find it impossible or unwise to keep the pace sometimes heedlessly set by those who are not thus limited. True friendship certainly bears no relation to economic equality, but difficulties may arise out of extreme economic inequalities that call for careful thought.

Religious or racial differences sometimes prevent what might be mutually valuable friendships. Intolerance and provincialism have no place in a college community. Differences in belief or background can add zest and variety to a friendship if they are associated with a sufficient number of common interests and attitudes.

Membership in a fraternity or sorority or other social club is a crucial problem for many students. The mature and thoughtful student will recognize the fine human values inherent in these associations where the members are mutually congenial but will not be heartbroken if a coveted bid to membership is not received. Choices are frequently made on the basis of superficial observations during the rushing season or of motives extraneous to real friendship. The terms "Greek" and "barb" suggest a kind of infantile snobbery which has no place on a college campus. The decision to join a social group should be contingent upon the friendships desired and should not blind a student to the value of other associations.

The following criteria for friendships are suggested for consideration. They are not listed in order of importance, and it is not assumed that all of them are essential to any particular friendship. They are included as a challenge to the reader to formulate his own criteria for the choice of friends and his own standards of what he himself hopes to be able to contribute to a friendship.

Mutual attraction of personality.

Mutual interests.

Complementary interests.

Similar attitudes, ideals, and standards of conduct.

Absence of obnoxious or personally displeasing manners or personal habits.

Neatness of appearance.

Wearing qualities.

Dependability.

Unselfishness and mutual interest in each other's welfare and happiness.

Possibilities for mutual give and take.

What are some hindrances to popularity or to the formation of desired friendships?

Many students have asked "Why don't I make friends?" or "Why don't my friendships last?" A study of the individual has sometimes resulted in the discovery of a fairly obvious or simple answer to the question. More often it has revealed a complex of factors that are working subtly to antagonize desired friends. Among the more obvious difficulties encountered are extreme self-centeredness; reticence or shyness in meeting people; obnoxious personal traits such as "stand-offishness," priggishness, intolerance, mannerisms, untidiness or lack of personal fastidiousness; or a heavy academic program or outside work that leave no time for social amenities. In some instances individuals have formed such a strong habit of daydreaming to compensate for their lack of friends that they failed to make the effort needed to be friendly.

Laird and his associates have developed the following self-inventory as a result of their experimental studies of why we don't like people (140, pp. 30-32).

TRAITS THAT MAKE US LIKED

Give yourself a score of 3 for each of these questions that you can answer "Yes":

1. Can you always be depended upon to do what you say you will?

2. Do you go out of your way cheerfully to help others?

3. Do you avoid exaggeration in all your statements?

4. Do you avoid being sarcastic?

5. Do you refrain from showing off how much you know?

6. Do you feel inferior to most of your associates?

7. Do you refrain from bossing people not employed by you?

8. Do you keep from reprimanding people who do things that displease you?

9. Do you avoid making fun of others behind their backs?

10. Do you keep from domineering over others?

Give yourself a score of 2 for each of these questions that you can answer "Yes".

11. Do you keep your clothing neat and tidy?

12. Do you avoid being bold and "nervy"?

13. Do you avoid laughing at the mistakes of others?

14. Is your attitude toward the opposite sex free from vulgarity?

15. Do you avoid finding fault with everyday things?

16. Do you let the mistakes of others pass without correcting them?

17. Do you lend things to others readily?

18. Are you careful not to tell jokes that will embarrass those listening?

19. Do you let others have their own way?

20. Do you always control your temper?

21. Do you keep out of arguments?

22. Do you smile pleasantly?

23. Do you avoid talking almost continuously?

24. Do you keep your nose entirely out of other people's business?

Give yourself a score of 1 for each of these questions that you can answer "Yes":

25. Do you have patience with modern ideas?

26. Do you avoid flattering others?

27. Do you avoid gossiping?

28. Do you refrain from asking people to repeat what they have just said?

29. Do you avoid asking questions in keeping up a conversation?

30. Do you avoid asking favors of others?

31. Do you avoid trying to reform others?

32. Do you keep your personal troubles to yourself?

33. Are you natural rather than dignified?

34. Are you usually cheerful?

35. Are you conservative in politics?

36. Are you enthusiastic rather than lethargic?

37. Do you pronounce words correctly?

38. Do you look upon others without suspicion?
39. Do you avoid being lazy?
40. Do you avoid borrowing things?
41. Do you refrain from telling people their moral duty?
42. Do you avoid trying to convert people to your beliefs?
43. Do you avoid talking rapidly?
44. Do you avoid laughing loudly?
45. Do you avoid making fun of people to their faces?

Laird states with reference to scores on this test:

The higher your score by this self-analysis the better liked you are in general. Each "No" answer should be changed through self-guidance into a "Yes" answer. The highest possible score is 79 About 10 per cent of people have this score. The lowest score made by a person who was generally liked was 56. The average young person has a score of 64. The average score of a person who is generally disliked is 30. The lowest score we found was 12. It is encouraging to note that the average young person has a score closer to that of the average liked person than to that of the average disliked person.

As a final admonition Laird says, "Like if you want to be liked." Those studied who expressed dislike for the most individuals possessed the largest number of generally disliked traits.

These lists of traits were chosen on the basis of reactions by a large number of people, but not everyone will be equally affected by them. The two traits of borrowing and asking favors were used by Benjamin Franklin and Andrew Carnegie as strategy in making needed friends. Franklin is reputed to have turned an enemy into a lifelong friend by borrowing a treasured book from him, and Carnegie to have managed a rebellious partner by asking him to select horses for him (251). The admonition against flattery does not exclude the desirability of the right kind of compliment or deserved recognition of achievement. If some of these traits were applied rigidly between intimate friends, they might tend to undermine the sincerity of the friendship. Discussion of personal troubles, for example, if not overindulged in and with a mutual desire for helpfulness, should probably be a privilege of intimate friends, though it is easy to see how a strong propensity in that direction could wreck more casual friendships.

The list of traits probably represents the safest guide that has been developed in this field through research, but its use does not preclude the necessity for studying and adjusting to the idiosyncrasies of those with whom one wishes to be friendly. Also, any such list can never be applied successfully without the basic characteristics of genuine interest in people, a sincere courtesy, and unselfish consideration of the rights, attitudes, and desires of others.

Manners bespeak the inner man. The characteristics just mentioned are the foundation stones of good manners. We might not agree that "Manners makyth man," but we should probably all agree that manners *bespeak* the inner man. They might be thought of as the oil of social relationships that keeps them going smoothly. The club or sorority that excludes a prospective member merely because she uses the wrong silver for an article of food is exercising a very superficial basis for choice. Likewise, the individual who assumes manners that are obviously not habitual may cause amusement by his artificial conduct. However, "good manners," including correct etiquette, the social graces, and the desire to contribute one's share to the pleasantness of any social activity, are excellent personal assets as well as means of increasing one's own enjoyment. Study some authorities on etiquette, check your weak points, and improve them by practice until they become automatic. One is then in a position to decide in what respects he prefers not to conform to traditional modes or manners in the interests of greater life values.

Appearance counts. A young woman came into the author's office to discover why she was no longer being called as a substitute teacher. One glance at her appearance gave a partial answer—unkempt hair; an unbecoming, tattered hat; a soiled dress, ill-fitting though made in the latest mode. Inquiry at the personnel office revealed that every principal in whose school she had substituted the previous year had requested that she should not be sent again. This young woman had had excellent college training, had a good scholarship record, and should have been in a position to earn her living and give worthwhile service. She was in desperate financial straits, with others dependent upon her and no apparent way out of the dilemma. The very first impression developed an unfavorable attitude in

those with whom she came in contact. One would like to report that she was informed of her difficulty, overcame it, and lived happily ever after. Such outcomes could be reported by almost anyone who has worked very long in the guidance field. Unfortunately in this case there were deep-seated personality trends that somewhat harmonized with the outer appearance. Here the exterior bespoke the inner man, as is so often the case with appearance as well as manners.' She may master her difficulties yet; though if she had started on the task in college, her chances of success would have been greater.

An attractive appearance does not depend upon expensive clothes of the latest fashion. Important factors are well-chosen fabrics, becoming style, and colors that emphasize one's best features and furnish an unobtrusive setting for one's personality rather than detracting all attention from it; clothing suited to the particular occasion; and personal cleanliness and careful grooming. A little study and thought about matters of dress and grooming can soon result in their relegation to the same habitual place in living as manners.

Have you acquired skill in some prevailing activities? No matter how correct your manners or appropriate your dress, there is still danger of being a wallflower or an outsider if you cannot enter into activities with a certain degree of skill and finesse. Whether this skill is in sports, dancing, card playing or other games, conversation, special talents, or a combination of several depends partly on the interests and aptitudes of the individual. The important point is to have at least a moderate amount of skill in some. No one in a modern college lacks the opportunity to become proficient in several activities. Sometimes a student handicapped in this respect will expend his energy in daydreaming about impossibilities instead of taking the initiative in planning a program of training.

Skill in conversation as an art is perhaps less often developed by Americans than other types of social activity. It is surely an art that should flourish in a college community. The French writer Dimnet has made some exaggerated comments on our lack of conversational skill in America. He writes:

There is hardly a vestige of conversation left in America. Worse than that, the word has ceased to have any meaning. The question so familiar in Europe: "What was the subject of conversation at

dinner last night?" is never heard in the United States, and if it were, it would sound as preposterous as might be the question· "What was the subject of conversation at your dance?" *

Few indeed are the people who, hearing the word conversation, remember that the name, and, no doubt, the thing in its perfection, came from Italy. The guests at a house party would sit in *circulo* to have a *conversazione,* that is to say, each one in his turn would give his opinion on some topic. Perhaps, before another generation has vanished, people will not know that a "general conversation" means one in which, no matter how many people are assembled, only one voice is heard at a time. Americans, who always credit the "Latins" with vehemence and exuberance, would be surprised indeed to see how a dozen or even more people in Rome or Madrid, or Buenos Aires, can keep their native effervescence in check to enjoy a conversation. They have a sense of absolute freedom, yet they obey two rules which were impressed upon me in childhood till they became law: *pas d'apartés et pas de monologues;* no asides and no floor-holding! Asides especially were supposed to be the characteristic of a boor. This admixture of pleasure and profit, consciously yet not laboriously sought, is, undoubtedly, one of the most civilized enjoyments that urbanity has made possible for mankind (68, pp. 253-255).

Dimnet considers one of the chief causes of the lack of conversational ability to be the habit of giving large parties instead of limiting them to the "number of the Muses." College life affords many opportunities for gatherings of this favorable number to promote worth-while conversation, but it also presents many opportunities in larger gatherings for the type of degenerated vocal activity described by Dimnet as "Reciprocal volleys . . . poured out as they used to be in the naval battles of yore when the guns answered one another nose to nose." College students would do well to revive and improve this art of conversation, not only in light and playful repartee but in the more thoughtful and serious give and take which may be really creative.

INVENTORY OF SOCIAL ASSETS AND LIABILITIES

What will be your criteria for friendships? How may you become a better friend?

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List the qualities that you desire in friends. Ask several people to rate you with respect to the standards that you have set up. Cross off those which you think that you possess in a sufficiently high degree. Outline ways in which you may develop or strengthen the others. Appraise yourself with respect to the three lists from Laird's study of traits that make us liked. What are your possible hindrances to making and keeping friends, and how may these limitations be overcome? Appraise your present and desired friends with respect to these standards.

What are your strong and weak points in manners, dress, and social skills?

Do you know what constitutes appropriate dress for different occasions, such as the classroom or formal and informal functions at your institution? Have you planned your wardrobe with respect to your social needs, what is appropriate and becoming for you, and the sensible limits of your budget?

Do you know what constitutes correct social usage? List the situations about which you are uncertain. Read discussions on these points in a good book on social etiquette (see the following references: 3, 176, 218). Use available handbooks and your powers of observation to discover local customs that you wish to follow.

List the social skills in which you are proficient, such as conversation, dancing, games, and sports. Then list those in which you would like to improve; find out what opportunities for instruction and practice are available; and map out your program of training.

Suggested Readings (see Selected References, pp. 471-483): 3, pp. 115-240; 19, pp. 240-251; 54, pp. 25-48; 68; 104, pp. 127-185; 105, pp 10-105, 140, pp. 3-32, 127-143; 146; 151, pp. 199-234; 198; 218, 241; 251.

INVESTMENT OF TIME AND MONEY

Are you distributing your time in harmony with your purposes and your loyalties?

Arnold Bennett says, "Time is the inexplicable raw material of everything" (17, p. 11). Used wisely, it holds untold possibilities for achievement; wasted, it can never be recovered. The purposes that we set for ourselves and the loyalties to which we pledge our allegiance can never be realized without direction of our time and energy. No one is entirely free to determine the disposition of his time, but he who complacently allows it to be regulated by conditions that he could control becomes a slave to circumstance. Control of the expenditure of time is perhaps more important than that of money, since one cannot borrow time.

Difficulty in budgeting time was the problem most frequently checked by new students in thirteen colleges and universities included in a survey of student adjustment difficulties (260, p. 50). The avoidance of wasted time is deserving of especial attention by a student, since, aside from regularly scheduled class periods, his time is usually at his own disposal. Without careful planning it is easily frittered away by unimportant matters before he is aware of what has happened. The feverish attempts to rush through belated assignments are usually evidence of thoughtless dissipation of time rather than a schedule of work that is too heavy. A little thought devoted to the planning of a daily schedule gives rich returns.

In budgeting time it is not necessary, as in budgeting expenditures, to count up resources. Everyone has the same amount of time to draw on—24 hours each day. How it is to be spent is the problem. The student living in a dormitory will plan his program in certain respects around the daily regimen of the group. The one who is living at home will to a certain extent plan his activities around the family routine. The student

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who is earning part or all of his expenses may have a considerable amount of his time definitely laid out for him. Most students will be controlled in their planning by a definite class schedule. The first step, then, is to discover just what activities and periods of time are already determined by external conditions, such as daily routine, attendance at classes, and outside work.

Have you made ample allowance in your time budget for study and serious reading? If we assume that study is the activity of first importance for the college student, the next step should probably be to decide on the desirable number of hours for study and to allocate study periods. However, this decision is not an easy one. The number will, of course, vary with the individual and with the subject. It will also **depend** on the individual's goals and his evaluation of academic work in relation to other activities. Are you striving to attain a high scholastic record or merely to achieve minimum or average standards? Are you seeking a certain degree of mastery in specific fields of knowledge or in certain skills? Are you motivated by a love of learning, or do you look upon study as a necessary evil to be dispensed with as quickly and easily as possible?

The amount of time needed for study and serious reading depends partly on individual requirements for meeting established standards and partly on the importance attached to these activities as compared with extracurricular or other interests. Individual requirements vary with aptitude for academic work, speed and efficiency of work, and the nature of the study program.

Surveys have shown great variations in the proportions of time that different students spend in study. In six colleges the average working load per hour of credit covered a range of from 2.4 to 2.7 hours. The average weekly load reported by students in six colleges centered around 42 hours, and the range in a group of eighteen colleges and universities was from 24 to 48 hours per week (216, p. 308).

The actual amount of study time required by an individual depends on his speed and efficiency in work and his preparation and adaptability for each type of work in which he is engaged. Students should face the fact that mental ability is an impor-

tant factor in academic success and that individuals highly favored in this respect usually require less time for study and therefore have more time for other activities than those less fortunate. If a student finds it necessary to spend more time on his studies than the majority seem to require, the cause *may* be ineffective study methods rather than lack of natural facility in intellectual pursuits. Whatever the cause, it is well to discover it, overcome it if possible, or compensate for it in a wholesome manner without any feeling of inferiority. The race is not always to the swift, either in college or in later life. The plodding, persistent, industrious student who plans his program carefully and uses effective study methods will often far outstrip his more brilliant classmates, in both scholastic and extracurricular achievements.

Have you reserved a suitable amount of time for extracurricular activities, and are you choosing those which will be most valuable and enjoyable? Studies have shown that freshman students do not engage in extracurricular activities so extensively as upper classmen. Whether a freshman or a senior, the desirable amount of participation varies with each individual, depending on health, energy, and the time required for effective results in studies and for the earning of expenses, if necessary. A survey of the extracurricular activities of students at the University of Minnesota showed an average of one activity per student, but an average of three activities for prominent students, and for honor students an average of four for men and five for women. The entire group of most active students showed higher academic achievement (in terms of honor-point ratio) than the students of medium activity or those inactive in campus affairs. There was a steady, although slight, rise in average honor points from inactive to most active men and women engaged in campus activities (47, p. 73). Of course there is no evidence in this study to indicate whether or not some of the students very active in extracurricular activities might have achieved more academically with less campus activity, but the study does not support the opinion that students who engage in many extracurricular activities necessarily do so at the expense of academic achievement.

This evidence, that extracurricular activities are not in gen-

eral detrimental to scholarship is borne out likewise by a study of the student body of Yale University, the results of which suggest that participation in campus activities may act as an incentive to greater effort along academic lines (57, p. 125). A faculty-student report at the University of Chicago on the distribution of students' time contains the following comments on the relation between activities and study:

> Time spent in nonstudy connections cannot be spent on study. Everyone knows that activities, gainful employment, etc., reduce the amount of time available for study, and that they stand in the way of making the best grades, other things equal. This does not mean that these nonstudy connections must necessarily interfere with the best results obtained from courses. They may, and frequently do, give the recreation and diversion needed for effective study. When they seriously limit the time available for study, necessity may prove to be the mother of invention. Perhaps the student will develop capacity for doing a given amount of work in a shorter time. On the other hand, they may be so distracting as to undermine such study habits as the student has built up. Again . . . time devoted to them will be subtracted from time otherwise devoted to "loafing and fooling around," which, in the opinion of some faculty members and in the opinion of still more students, is the worst feature of student use of time while in college (186, pp. 55-56).

In analyzing some of the programs of students who reported a sense of strain in their work, this committee concluded that in many cases the strain could be accounted for in other ways than by study. It recommended that more time should be devoted to study than the average amount reported by the students at that institution.

Are you reserving time regularly for out-of-door exercise and recreation? The intensity of college life often results in the omission of regular exercise and recreational activities. Your physical needs as to the amount and kind of exercise as well as your interests should be the first considerations in choosing sports. It is probably better to engage in them regularly for briefer periods than to devote half or whole days to them irregularly.

The problem of whether or not to try out for organized athletics—either intramural or intercollegiate—has many aspects

that should be considered by the person who is seriously interested. Intramural sports call for less intensive training and involve more of the play and recreational character than do intercollegiate activities. Before deciding to participate in the latter it is well to ask one's self some of the following questions:

1. Do I have the physique to stand the strain of the continuous severe training and the strenuous competitive games?

2. Will the time and energy required for training prevent me from engaging in other activities of interest and value?

3. Will it be likely to affect my academic achievement adversely?

4. Am I attracted by real interest in the activity or by the glamour of popularity?

5. Will the experiences have as lasting value as those related to other college activities which may have to be sacrificed?

Do you have adequate time for leisure, sleep, and routine habits? Strang concludes from a survey of many studies that, judged by the majority of daily schedules, students appear to be leading a normal, healthy life. She cites the distribution of time in one university as fairly typical of the way in which college students allocate their time: 8 hours 20 minutes of sleep, 3 hours 45 minutes of recreation, 3 hours of study, 3 hours of classes, 1 hour 20 minutes of mealtime, 1 hour 35 minutes of personal care, 1 hour of travel, 1 hour of remunerative work, and 1 hour of unscheduled time (216, p. 311). Hale reports in his study of college freshmen that those who had no problem as to the scheduling of their activities were more likely to rank high in scholarship than those unable to adjust in this respect. Only one of thirty-two cases studied in the lowest fourth in scholarship had no trouble with the problem of rising and retiring, whereas nearly one-half in the top fourth had no trouble. This illustrates how relatively simple habits may have far-reaching effects (104, p. 144).

The small amount of voluntary reading reported by students is a possible cause for concern. In one college only 20 minutes a day was spent in reading against 3 hours in talking and entertainment (216, p. 311). Undoubtedly, most of us could greatly enrich our lives by following Arnold Bennett's suggestions for systematic reading in *How to Live on Twenty-four*

Hours a Day if we allowed our personal whims and inclinations sufficient free play in the choice and methods of reading to eliminate a feeling of pressure and strain in moments that should allow relaxation, pleasure, and the encouragement of individuality.

The pressure to keep up with the procession in our swiftly moving world has placed many Americans under such apparent strain that the results in facial expression were characterized by a European several years ago as resembling "bottled lightning." This resemblance might be preferred by many to that suggested at about the same time by a well-known psychologist between the gum-chewing American girl (why did he confine it to the girls?) and the satisfied cow chewing her cud! The key to the solution of how to avoid both these undesirable extremes probably lies in large part in those experiences which are undirected by the pressure of work, social obligations, or ambition to achieve—times when we can "write *whim* on the lintels of our doorposts." Our inclinations and interests at such times are some of the best indexes of our real selves, and when afforded sufficient encouragement and free play they can give direction and force to our whole lives. The person who has learned to utilize his leisure periods with both enjoyment and profit has learned one of the secrets of living as an art as well as a science.

Is some of your time required for self-support while in college? Does such work detract materially from the value of college experience? The economic problem is a concern of a large percentage of college students. A survey of studies of this problem over more than thirty years shows that many students have found it necessary to earn all or part of their expenses in periods of general prosperity as well as in years of economic depression. Although numbers are variable as to time and institution, it may be said, in general, that between one-third and one-half of college students engage in employment during a school term: of the women, about one-fourth to one-third; of the men, about one-half to two-thirds (166, p. 52). Many others work during summer vacations or before entering college to help defray expenses (253, pp. 479-482). Dur-

ing World War II many students were motivated to engage in part-time work both because of the high wages and the desire to be of service. A *Fortune* survey of the Air Force personnel in 1945 indicated that of 41 per cent of the men who expressed their intention of returning to school after discharge from the service, 21 per cent stated that they expected to combine work and schooling.

What effect does self-support have upon social and academic achievement and health? Data from researches on this question and the opinions of educators vary considerably. At the University of Minnesota it was found that students earning part of their expenses did not curtail their participation in dramatics, music, religious and literary societies, and student-body government but did diminish their fraternity and sorority activities and participation in parties and dances until the senior year. At another university no difference was found in the number of employed fraternity and nonfraternity men, though more nonsorority than sorority women were employed.

For most students a moderate amount of outside work seems to have no detrimental effect on scholarship. Several comparative studies of the grades of self-supporting and nonself-supporting students show higher grades for the former than the latter. A study of Yale students contains the assertion that, other things being equal, the "academic success of students as measured by their classroom grades is inversely related to their financial advantage" (57, p. 50). This may be due partly to the greater seriousness of purpose of students who are willing to put forth the effort needed to pay their own way in college.

One investigator concluded that working more than 12 hours per week tends to exert a harmful influence on scholarship, but others have set from 15 to 25 hours of remunerative work as the maximum time that would not interfere with academic or social success. Of course, the desirable amount will vary with the student's ability, health, and college program. At least two studies have shown undesirable effects on health evidenced in the increased use of the university hospital (216, p. 343; 253).

The possibility of injuring health by overwork and the

loss of social and recreational experiences are factors that should be considered in deciding if or how much one should work to pay expenses while in college. When the work bears no relationship to vocational interests, it is desirable to keep it down to the lowest possible minimum and thus save time for more meaningful activities. If economic needs can be met through work related to vocational interests, the experience may be of decided value. The plan at Antioch College for significant work experiences during the college years is based upon the belief that such work not only aids vocational orientation but also contributes meaning and purpose to college studies. Some of the so-called terminal courses in junior college have been developed in harmony with this principle. The organization of most four-year colleges does not facilitate such a program, however, and this fact should be kept in mind by a student in alloting his time.

Although self-help programs for students have expanded in recent years, many college administrators and personnel officers strongly condemn the combination of full-time collegiate study with an extensive program of self-support. Their opposition is based upon the health hazards and the detrimental effects upon scholastic achievement and social contacts for many students and upon concern for the social life of an institution when large numbers of students are self-supporting. Some institutions recommend that a freshman start with a fund sufficient to meet his needs for the first semester or year and not expect to earn any of his expenses until he has made the initial adjustment to college.

Suggested minima and maxima for a time budget. The study of the distribution of students' time at the University of Chicago included the following faculty-student recommendations regarding minima and maxima in the budget of time.

Minima that must find place in the budget:

Study and class attendance for the *capable* student, not less than 14 hours per week per major, carefully applied.

Serious reading, not directly connected with courses enrolled in for credit, not less than 4 hours per week.

Physical education, athletics, exercise, according to habit

and need, but not less than 1 hour per day and 7 hours per week, regularly taken.

Lectures, concerts, theater, art, the equivalent of an evening, or not less than 3 hours per week.

Formal social affairs, dances, teas, etc., not less than 2 hours per week as an average.

Religion, social service work, or their equivalents in spiritual and moral training and growth, not less than 2 hours per week.

Suggested maxima.

Dances, teas, and the like, not more than 5 hours per week in term time.

Movies, "shows," attending games, indoor games (except as a form of exercise), not more collectively than 6 hours per week.

Activities should not be made a major interest, and gainful employment and all else should be disposed of in harmony with the real business of college.

If perchance the necessity of gainful employment or home responsibilities encroach upon the minima noted above, and especially upon the time available for study and serious reading, the number of majors enrolled in for credit should be adjusted to the exigencies of the case.

And all things should be adjusted so that the amount of sleep required to restore one's energy and to keep one fit should be had. Whatever figure individual experience shows to be needed, whether it is more or less than or just eight hours per day, should be taken as regularly as possible; for regularity of sleep and the conditions under which it is taken are quite as important as the amount. No item in the time budget is more important, and no item in one's use of time is more sinned against and so much in need of protection (186, p. 93).*

A time budget should be subject to revision, as experience demonstrates the need. It can be effective only when actually applied in the day's program from week to week. Exact precision in carrying out a planned program is not always possible, of course, since unexpected events are inevitable. Any

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time schedule should be a tool instead of a master and sufficiently flexible to meet changing needs

Appraisal of Your Time Schedule

How wisely do you spend your time?

Do you often have a feeling of rush and hurry?

Are you spending too much time on your work for the results obtained?

Does your work encroach on time needed for recreation, exercise, and sleep, or do you allow play to encroach on time needed for study?

Do you spend much time just doing nothing?

Are you tempted to postpone work until the eleventh hour?

Do you find it easier to study some subjects than others?

Do you spend so much time on some subjects that you neglect others?

When you play, do you feel that you are neglecting your work?

Do you reserve suitable times for friendly conversation?

Do you reserve sufficient time for reading not directly related to your studies?

Do you take time to eat your meals without hurrying?

Do you waste time through hurry and carelessness?

Is too much of your time consumed with self-support?

Do you have home or other responsibilities that absorb too much of your time and energy?

Do you allow friends to influence you unduly about the disposition of your time?

What time schedule will best serve your needs?

List the various activities, including studies, in which you expect to engage during this semester. Arrange them in order of their adjudged value both now and in the future. Add essentials such as sleep, meals, and routine matters of personal hygiene, assigning appropriate amounts of time for each.

Map out a tentative time schedule for 24 hours of each day in the week, filling in first the hours for routine essentials, class or laboratory work, and work for pay if a necessary part of your schedule. Then fill in the remaining hours for study and other activities at what seem the most appropriate times.

Place the schedule where you can refer to it frequently. Note it carefully at the beginning of each day, and check at the end of each day on how fully you have carried it out. After a

few days revise the schedule in any ways that seem necessary
or desirable.   Follow the revised schedule as before.

SUGGESTED FORM FOR DAILY TIME SCHEDULE

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
7–8							
8–9							
11–7	Sleep						

Reserve one space for each hour except time reserved for sleep
At the end of a week summarize the distribution of your time
as follows:

ꭣ WEEKLY TIME BUDGET

Activity	Mon-day	Tues-day	Wednes-day	Thurs-day	Fri-day	Satur-day	Sun-day
Time spent in class							
Study preparation hours							
Nonathletic student activities							
Organized athletic activities							
Recreation and leisure							
Self-support							
Sleep							
Meals							
Other activities (list)							
Totals in hours	24	24	24	24	24	24	24

Does this distribution of time harmonize with the values that you attach to the various activities? If not, how should you vary it?

How should you invest your funds for college?

Probably no other money investment may be so profitable as that invested in a college education. You are investing in your own personality which may, with skillful self-direction, become richer and finer in future years instead of depreciating like material capital. Also, you are paying only a fraction of the actual cost of your education, since, as we have already noted, society pays on the average more than 50 per cent.* It is an investment worthy of careful management.

How much will college cost you? The answer to this question varies with the institution and the individual. Some expenses are fixed once the college has been chosen; others are within the control of the student and may differ widely. Also, college expenses may be expected to follow the general trend of cost of living, so that actual expenditures reported for any one year are meaningful only to study certain trends.†

An example of the wide range of student expenditures may be found in the study of student spending at Indiana University in 1940-1941 (58). One-fourth of the students spent less than $514.89 each during the year and another fourth spent more than $842.83 apiece, these two figures representing the first and third quartiles. The median expenditure was reported to be $673.06. In other words, 50 per cent of the students spent more than this amount, and 50 per cent spent less.

Expenditures of men and women did not differ markedly, except that women spent more on the average for clothing than did men whereas the men spent more on recreation and refreshments. Dues for men's organizations were also somewhat higher than those for women. Freshmen spent more than other classmen on clothing; otherwise the ranking of budget items was relatively the same for each class group. An earlier study of actual student budgets in one university showed some stu-

* See p. 16.

† Average estimated student expenditures at Indiana University for a fifteen-year period together with indexes for each year based upon 1925-

dents spending nearly four times as much as others for recreation and campus interests (216, p. 327).

How shall you budget your expenses? The variations in costs among students in the same institution suggest the desirability of careful budgeting to ensure the best returns. Tuition and fees are usually fixed expenses. Board and room may likewise be unadjustable items if one is living in a dormitory. The student of limited means will, of course, expend a much larger percentage of his total resources for food and shelter than will the student with a larger allowance. Care should be exercised not to cut the food item to the point where health may be impaired or hospital expenses needlessly incurred. Books and supplies constitute another important item that should be considered an investment and not subjected to too rigid economics. Judicious buying and careful use are usually the

1926 expenditures show the shifting trends during this period. These may help you to judge the relative level of your college costs.

AVERAGE ESTIMATED TOTAL EXPENDITURES OF STUDENTS AT INDIANA UNIVERSITY
(Weighted arithmetical mean for 1925–1926 = 100)

College year	Average in dollars	Moffat index of student expenditures
1925–1926	911 00	100 0
1926–1927	831 74	91 3
1927–1928	880 82	95 7
1928–1929	847 23	93 0
1929–1930	877 29	96 3
1930–1931	837 69	91 1
1931–1932	729 60	80 1
1932–1933	582 00	63 9
1933–1934	533 15	58 5
1934–1935	553 36	60 7
1935–1936	533 26	58 5
1936–1937	581 89	65 2
1937–1938	630 68	69 2
1938–1939	619 40	67 9
1939–1940	642 28	70 4
1940–1941	663 40	72 8

From Crawford, Mary M , *Student Folkways and Spending at Indiana University, A Study in Consumption*, 1940–1941, New York, Columbia University Press, p 22

best principles to apply here. For example, a saving can usually be made by purchasing paper and other supplies in fairly large quantities instead of piecemeal as needed.

The apportionment of your resources will depend to a large extent upon your tastes and standards of value and expertness as a consumer in the selection, use, and care of purchases. All the values that may accrue from college experience should be considered in order to avoid the false economy that may deprive one of needed cultural advantages or may impair health.

Table I, showing percentages of student budgets spent on various items at one state university, may afford helpful suggestions for developing your own.

TABLE I —PERCENTAGE OF BUDGET SPENT FOR INDIVIDUAL ITEMS BY UNIVERSITY STUDENTS, 1940–1941 *

Item	Percentage of Budget
Food	27 45
Rent	16 99
Clothing	16 09
University fees	13 92
Recreation	4 28
Dues	4 16
Textbooks	3 77
Transportation	3 40
Refreshments	3 10
Contributions	2 02
Laundry .	1 70
Personal care.	1 54
Medical care	1 12
General reading . .	0 49

* From Crawford, Mary M , *Student Folkways and Spending at Indiana University, A Study in Consumption*, New York, Columbia University Press, 1943, p. 223.

✓ PLANNING YOUR COLLEGE BUDGET

Estimate your expenses for this semester under appropriate headings such as tuition; fees; room, board; books and supplies; clothing; incidentals (laundry, personal supplies, services, etc.), transportation; recreation; church, club, and cultural activities; total.

Starting on the basis of your present available expense money for a semester, list ways in which you could reduce expenses without eliminating those things necessary for health or efficiency in your college work and ways in which you could best utilize the amount saved to enrich your college experiences.

If you are not already doing so, start an account book for income and expenditures in order to check on the extent to which you are following your budget.

Do you need to supplement your present resources? So many capable young people lack both the funds to attend college and the opportunity to earn money that institutions of higher learning have experimented with ways of providing self-help. These efforts have been of two types giving students a chance to work and reducing the cost of student living. Various projects initiated for aiding students are described in a bulletin of the United States Bureau of Education (130). Among the money-earning opportunities are factories for chemical products under the supervision of a professor of chemistry; a metalcraft shop; weaving, furniture and equipment making; student operation of the college printing presses; stone cutting, building construction; farm labor; custodial service; laundry work; entertainment; and special library work. Communities and state and Federal services cooperated with colleges in providing special opportunities for student work on projects. Students have not lacked initiative in devising their own means of earning money. Both individuals and groups have set up numerous agencies to supply services or sell commodities both to the student population and to the community.

Projects to reduce the cost of student living include the provision of cooperative houses where the students share in the management and work, cooperative dining clubs, and cooperative buying associations. Similar cooperative groups have been privately initiated by students themselves. In the South there are about a score of self-help colleges which aim to be as self-sustaining as possible through using student help on their farms or in various industries.

Experiences with these varied types of student work have led to the realization that they may frequently be important educationally as well as financially. The director of a carefully planned program of student employment in the dormitories at Yale University reported that because of the opportunities for personal development, applications for work were received from students of comfortable means. The values of real money-earning labor and the democratic sharing of tasks have also

been cited as well as the fact that intellectual growth takes place for some in terms of working with their hands. Reports, however, from students in cooperative groups have revealed a lack of enthusiasm for the arrangement because they had little time for participation in college activities (130, p. 149).

Employment bureaus exist in most institutions and are able to place many students in part-time jobs. However, the availability of suitable jobs depends upon general employment conditions. Several references describe the varied types of work in which students typically engage (130, 148, 151, 166, 241).

Scholarships, fellowships, and loan funds are traditional ways of aiding students. Many of them are not available to freshmen and are generally awarded on the basis of demonstrated ability.* They have the advantage of allowing the student to give more of his time to college work and activities than is usually possible in a part-time work program. There is growing interest in the question of the extent of society's obligation for the education of its youth. Many believe that no young person who shows promise of benefiting from education at any level should be deprived of the opportunity for such training because of lack of funds.† This attitude implies not only democratic concern for the welfare of the individual but also recognition of the contribution that should be made to society by its potential leaders. This point of view might lead eventually to an organized policy of subsidies for worthy individuals who lack adequate means to attend college or government aid to institutions to enable them to provide these opportunities. Those who favor loans to students look upon higher education as a privilege to be paid for by the individual.

The present-day college student should approach the self-support problem from several angles: (1) acceptance of personal and social obligations for loans or scholarships; (2)

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* See references 85, 97, 101, 151, 241, for sources and lists of available scholarships and loan funds. See also the following bulletin for suggestions of ways to supplement income: Greenleaf, Walter J.; "Working Your Way Through College," *United States Office of Education Bulletin* 1941, No 210, Washington Government Printing Office, 1941, 175 pp.

† The plan of the Board of Regents of New York State for an annual appropriation of $16,000,000 for scholarship grants to the upper 10 per cent of the high-school students in the state illustrates this trend.

selection of work on the basis of what is most suitable individually and may have some bearing on vocational training and desirable experience, if possible, (3) planning necessary work for self-support so as to interfere least with a well-balanced college program that will not undermine health and efficiency and that will not prevent the attainment of valuable educational goals.

Financial Inventory

How much, if any, of your college expenses will you need to earn?

Have you canvassed all the possibilities for self-help in your institution?

If you need to supplement your available cash, what are the relative advantages and disadvantages for you of part-time work, loans, summer work, the interruption of college work for a full-time job to save money or gain new experiences?

Have you consulted your counselor or adviser regarding the suitability of plans for self-help?

Suggested Readings (see Selected References, pp. 471-483)   3, pp. 80-96, 17; 27, pp. 224-250, 267-280, 58, 64, pp. 74-83, 95, 105, pp 119-129, 109; 148, pp. 3-84, 141-234, 151, pp 102-146, 235-264; 153; 159, 166, 198, 203, pp. 32-52; 241, pp 20-86, 173-210.

Chapter V

VALUES IN CAMPUS ACTIVITIES

Are you planning your campus activities in harmony with your college goals? What benefits are you deriving from these activities? Have you considered what your best contributions may be?

Have you experienced any difficulty in deciding which activities to enter? You may already be engaged in a merry round of activities, or you may be on the side lines. Whatever your present status, the college social world contains a wealth of opportunity for trying out your powers of leadership and followership, for learning to choose the finer values in life, and for developing your personality. But, like the social world outside college, it may be meaningless or even harmful unless values are consciously chosen and striven for. An important problem is that of deciding which activities have most value for you and will fit most appropriately into your plan of life in college.

What are the values of campus activities? The group of student leaders at Stanford University, previously mentioned, conducted a nation-wide survey of conditions and practices with respect to student activities in several hundred colleges and universities. Their findings and their philosophy are embodied in a book * that should inspire and challenge every college student.

The philosophy evolved by this group of students emphasizes the following points·

1. We learn by doing; and therefore where there is no self-activity, there is no learning.

2. An educational institution is primarily concerned with what is learned, and campus activities must be judged by the nature of the learnings that they afford.

3. The values of democracy and sound principles of mental

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* Edited by their faculty adviser, H. C. Hand.

and physical health should in large measure dictate what students learn through participating in a wisely guided and adequate program of activities.

4. Campus life should be a laboratory where students learn democracy through living as active, purposeful, and responsible participants in a democracy.

5. Students must be so guided that they will not overload themselves to the detriment of their academic and physical wellbeing but will have abundant opportunity to live the principles of mental hygiene in happy, successful social relationships in which each person contributes his share through self-directed purposeful activity.

6. Activities should be so organized and conducted that students learn

> To become sensitive to the needs, desires, and rights of others.
>
> To work cooperatively for the common good, conforming intelligently, not blindly, to social controls and improving these controls through wise experimentation.
>
> To recognize, select, and follow wise and able leadership and to recognize, reject, or repudiate unwise and ineffective leadership.
>
> To break down all special privilege and achieve the largest possible equality of opportunity for every student.
>
> To establish a self-imposed type of law and order conducive to the greatest good for the greatest number and favorable to the greatest possible realization on the campus of all the values of democracy.

Every campus should "grow" its own program of student activities geared to the needs, interests, and purposes of its uniquely constituted student body (105, pp. 1-9).

Probably no program fully in harmony with this philosophy could be found at present. With wise faculty guidance each student group can improve its program by formulating its own philosophy and seeking earnestly to achieve the desired values through all campus activities. Each individual student can likewise enhance the values of his activities both for himself and for others by formulating his purposes in harmony with those

of the group and choosing and planning his participation thoughtfully with a view to his own needs for self-development and his best services to the group.

Is participation in campus activities of value in later life? In answer to this question attempts have been made to discover the relationship between success in life and participation in college activities. The chief difficulty has been to find data that represent adequate criteria of success. The criterion of inclusion in *Who's Who in America* seems to favor the campus journalist, dramatist, and scholar more than the athlete and politician (235). However, the outstanding athlete has fared better in one study in which vocational success was measured primarily by average annual income earned over five-year periods. In every measure of success obtained the graduates who had been active showed a definite superiority over the alumni who had not participated in college activities (232). Alumni who have been rated high in vocational success by their classmates have revealed a tendency while in college toward greater than average success and honors in scholarship, athletics, and other extracurricular activities (32, 34, 123).

The American Telephone and Telegraph Company found among its employees that college graduates with a record of "substantial achievement" in extracurricular activities were earning—twenty-five years after graduation—an average salary 20 per cent above that for the entire group. Those with "some achievement" were earning a salary about 10 per cent above the median salary, and those with no achievement, nearly 10 per cent below the median salary. However, the relationship between income and scholarship was greater than for campus activities (34). Since there is considerable evidence that group activities may have a stimulating effect on the student that carries over into better scholarship, the question might be raised here as to a possible indirect influence of activities upon later success.

What do the alumni themselves think? Among 250 alumni of the University of Minnesota who replied to a questionnaire, 38 per cent considered activities of more value than classroom work, 25.6 per cent considered them of equal value with classroom work, 36.4 per cent considered them of less value (47).

In a recent *Fortune* survey,* however, a group of men from many colleges assembled for one of the war-training programs gave a relatively lower rating to college activities than to academic experiences.   The percentage of these men who rated as "very important" their former extracurricular activities, such as lectures, concerts, exhibits, etc., and associations in clubs or fraternities, ranged from 52 to 33 per cent; academic experiences, such as class discussion, books, informal discussions with fellow students, contacts with professors and counselors, independent study, and class lectures, were rated as "very important" by from 72.8 to 56.6 per cent.

Although some studies show no apparent relationship between either scholarship or activities and achievement in later life, there is enough evidence of value in a well-rounded program to encourage the hesitant or backward individual to take advantage of his opportunities in college for developing social facility and all aspects of his personality.   Most institutions provide guidance for students in the selection of suitable activities and many assist them to learn how to play their parts more effectively.

What are some of the learnings and problems associated with various campus activities?

Social life on the campus.   Woodrow Wilson, when president of Princeton University, expressed the fear that collegiate side shows were being overdeveloped.   Nevertheless, he emphasized the basic importance of human relationships when he wrote:

A man *is* the part he plays among his fellows.   He is not isolated; he cannot be.   His life is made up of the relations he bears to others —is made or marred by those relations, guided by them, judged by them, expressed in them.   There is nothing else upon which he can spend his spirit—nothing else that we can see.   It is by these he gets his spiritual growth; it is by these we see his character revealed, his purpose, and his gifts.   Some play with a certain natural passion, an unstudied directness, without grace, without modulation, with no study of the masters or consciousness of the pervading spirit of the plot; others give all their thought to their costume and

* Conducted in collaboration with the Committee on Postwar Planning of Yale University; published in *Fortune,* April, 1945.

think only of the audience; a few act as those who have mastered the secrets of a serious art, with deliberate subordination of themselves to the great end and motive of the play, spending themselves like good servants, indulging in no willfulness, obtruding no eccentricity, lending heart and tone and gesture to the perfect progress of the action. These have "found themselves," and have all the ease of a perfect adjustment (256).*

All human beings need to feel that they "belong" and have a respected status among their fellows. Belongingness and status depend on opportunities for shared experiences and the willingness and ability to give and take. The social programs in colleges are planned by faculty and student leaders for this purpose and require the cooperation of all students for their success.

A frequent problem is that of centering the social life on the campus in a wholesome environment where students can learn to distinguish between the tawdry and the valuable in social activities. Other problems are those of equalizing social opportunities by keeping down costs, of combating snobbishness and cliques, of breaking down racial and religious prejudices, of helping all men and women to make wholesome adjustments to the opposite sex, and of fostering friendly relations between classes and with other college groups.

The success of any program will depend in large part upon the recognition by students that the real purpose of the activities is the learnings that accrue to individuals and that a spirit of tolerance, objectivity, and mutual helpfulness should prevail. A selfish seeking for one's own enjoyment alone or satisfaction in *feeling superior* will not only hinder the development of a democratic social program but will prevent an individual from *being superior* through fine social sensitivity and courteous consideration for others. Likewise, remaining aloof because of lack of confidence and skill cuts one off from desired enjoyments and hinders a democratic life. A student who lacks a particular social skill such as dancing may profitably secure some training in a small group, but every shy person should bolster up his self-confidence by recognizing that most young people feel inadequate and self-conscious in some way.

* Reprinted by permission of Edith Bolling Wilson.

The ability to forget self in cooperating wholeheartedly in a cause larger than self is a mark of the truly mature person.

Living groups. The student away from home, perhaps for the first time, faces many problems of adjustment with other students in the daily relationships of dormitory, fraternity or sorority, or rooming-house life. If he continues to live at home, he may need to face the problem of avoiding isolation from these groups and the total social life, though many institutions have well-developed policies for bringing the off-campus student into the fold.

Resident groups afford splendid opportunities for learning to live happily and effectively with one's fellow beings. A university president made a revealing statement when he wrote: "I once lived in a dormitory with several hundred boys for a number of years. Since that time I have discovered no new kind of man and no new kind of human reaction." * This comment would suggest the desirability of taking stock of one's personal habits and livable qualities to prevent inconvenience and annoyance to others and to contribute one's share to the creation of a neat, attractive, friendly environment that is conducive to both work and recreation.

Sometimes resident groups engage in mutual inventories of their members to help them to improve their personalities. When this is done, care should be exercised to direct the criticism toward particular attitudes, habits, or adjustments and not toward the individual as a whole, so that he may maintain a sense of respected status in the group.

Living in college should enable one to rub off rough corners without losing individuality and to develop a mature and cultured personality. Surveys indicate that childish pranks and roughhousing are disappearing with the vanishing "Rah Rah Boys." "Bull" sessions seem to be holding their own. House groups are more and more becoming home groups in which young people are living the good life through sharing and developing their social assets and skills. The learnings will doubtless carry over into enriched home and community living in the years beyond college.

* Wilbur, Ray Lyman, "A Guest Editorial," *Student Life*, Vol. 4, No. 6, p 2, March, 1938.

Student-body government and activities. A student-body organization, like the government in a democracy, exists to promote the welfare of its members. Wisely planned and administered, it gives excellent training for democratic citizenship, but it is subject to all the difficulties that any democratic government may face. Among these are the possible indifference of some of its citizens, poor leadership or followership, selfish interests, and political intrigue. Most student government involves faculty-student cooperation which may yield valuable learnings in democratic processes if both faculty and students are alive to the opportunities. The choice of student-body officers gives practice in the wise selection of leaders; the exercise of leadership gives the chance to discover and develop potential ability, and active, intelligent followership can be learned. Most student-body organizations involve sufficient committee work and financial, social, and publications activity to provide an outlet through service for nearly every type of ability.

Athletic activities. Intramural sports are occupying an important place in the athletic programs of most colleges. Increasingly, college students are engaging in numerous minor sports and thus acquiring skills that may carry over into healthful recreation in adult life. There is much questioning of the widespread use of awards and trophies except to encourage initial participation that might lead to basic interest in an activity for its own sake. One survey indicated that intercollegiate sports were entered, on the average, by considerably less than a tenth of the men enrolled in the larger institutions and well over a sixth, on the average, in the colleges of less than 1,000 students. The ratio of the number of men taking part in intramural and intercollegiate sports was five to one for all campuses represented in this survey.

Special clubs and miscellaneous activities. The extracurricular programs of most well-established institutions run the gamut of significant human interests and offer students great variety of opportunities for the exploration of abilities and the development of inner resources. Some colleges have recognized the value of these activities by including them in the curriculum and discarding the term "extra." There are still many unsolved problems, however. For example, musical, dramatic,

and forensic activities are sometimes conducted on a professional basis for small groups, with finished performance as a goal rather than serving to elevate the tastes, refine the appreciations, broaden the outlook, and develop the abilities of larger numbers of students. Faculty-student cooperation in the study of such problems is likely to result in the widening of opportunities, but students need to be aware of the possibilities and ready to take advantage of them if a well-planned program is to succeed.

Many activities may prove valuable from the vocational as well as the avocational viewpoint. This might be true of journalistic activities for some students, also of the various departmental clubs and societies. Any activity that tests one's powers may yield self-knowledge important for wise vocational planning. Developed interests and abilities that do not fit into the vocational plan are fairly certain to make one a more valuable friend, mate, parent, and citizen.

How shall you gain experience in leadership? Every group activity requires leaders. College experience should provide every student with some excellent training in the exercise of leadership as well as in the wise choice of leaders and in followership. Not all individuals have the desire or the particular talents for outstanding leadership, but there are many kinds of leaders—such as intellectual, artistic, social, and political. Each student should discover the spheres in which he can best use his unique talents in the service of his fellows and for his own self-realization.

Leadership in a democratic social order means *service* in helping people to work together happily and effectively for common purposes, not the exercise of power for self-satisfaction or other selfish ends. True leadership results in the creation of power *with* people, not *over* them. It recognizes people and their purposes as ends, not as means.

What are the requisites for leadership? The problem of selecting and training leaders in the Army and Navy has been given much study, and findings here have implications for leadership in civilian life. There is general agreement that military leaders should command respect and cooperation, be genuinely interested in the welfare of their subordinates, possess courage

and the drive to complete assigned tasks and to initiate necessary actions, and know how to organize their groups to bring forth the best services of individuals.*

But no simple word picture or list of traits can describe the successful leader. His position grows out of the interplay between his total personality and others for whom his influence meets a felt need. Most of the qualities commonly ascribed to leaders are those particularly potent in arousing the enthusiasm, loyalty, and devotion of others and in stimulating them to exert organized and persistent effort to achieve certain desired ends. Therefore, the real leader must be **able to** inspire others with confidence in his ability to lead them unselfishly. He must know what his group wants or influence them to accept certain purposes as theirs and to identify their interests with these purposes. Ordway Tead has emphasized significantly that the measure of success in leadership lies outside the leader in the action of his followers. "The vital problem," he says, "is how to make group activity a happy and satisfying experience for people" (224, p. 7). To achieve this, one needs a fairly high degree of emotional maturity, with sufficient freedom from self-concern to allow for concern with matters affecting others.

Tead lists ten qualities of leaders that he considers ideally desirable physical and nervous energy, a sense of purpose and direction, enthusiasm, friendliness and affection, integrity or trustworthiness, technical mastery of the executive task, decisiveness, intelligence, teaching skill to help others learn how to do for themselves, and faith in the worth-whileness of the purpose and effort (224, p. 83). One study of the leadership traits of college women indicated that outstanding qualities of high-ranking leaders were democratic attitudes, vitality, positiveness, enthusiasm, friendliness, sympathy, trustworthiness, and perseverance. Among the traits that seemed to prevent leadership were timidity, affectation, egotism, silliness, fickleness, narrowness, and stubbornness (160).

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* Harrell, Thomas W, "Applications of Psychology in the American Army," *Psychological Bulletin*, 42: 453-460, July, 1945, also, *Manual for Practical Leadership Qualities*, Bureau of Naval Personnel, Training, Standards and Curriculum Division, October, 1944.

Arthur J. Jones concludes from a survey of numerous studies of leadership:

Leaders of all groups are characterized by a high degree of ambition and desire to excel, belief in their own powers, general intelligence, and work on special interests. To a somewhat lesser degree, but still to a marked degree, they are characterized by forcefulness, quickness and profoundness of insight, and intensity and wideness of influence.*

One might add to these lists a sense of humor, versatility, imagination, and creativeness. On the basis of your observations what other characteristics should you add? In checking yourself or others against these lists it is important to bear in mind that each leadership position may call for its own particular pattern of characteristics.

The prospective leader should consider his possible liabilities as well as assets in personal characteristics. Attitudes and behavior that tend to annoy and antagonize others will, of course, tend to prevent wholehearted cooperation. Too great concern with the avoidance of negative reactions in others may, however, lessen one's courage to maintain well-considered convictions and may even lead to insincerity which is soon sensed by followers and may prove more of a handicap than lack of tact. Real interest in all members of a group expressed in intelligent effort to utilize their talents and to secure satisfying recognition for them is a basic essential for a leader. Partiality, unfair or undemocratic suppression of opposing viewpoints, and patronizing manners are incompatible with such interests.

The effective leader accepts his position as a symbol of group loyalty in a way to command respect without developing that undue sense of importance commonly described as a swelled head. He recognizes that leadership means service, not mere ego satisfaction. He will have the courage to face opposition when necessary or to set aside his own wishes in order to work for ends accepted as desirable by the majority of the group. Because his first interest is in the group, not in his position as leader, he will have no personal animosity toward opposition.

* *The Education of Youth for Leadership,* New York, McGraw-Hill Book Company, Inc., 1938, pp. 22-23

Like the true teacher, he will work to make himself superfluous by fostering the initiative, resourcefulness, and cooperative endeavor of his followers. He will, himself, be a good follower in some activities and hence will better understand his co-workers.

What leadership training will you receive in college? Your first training may come through learning to be a good follower. Thoughtful observation of the qualities and the methods of your present leaders and of the attitudes and responses of your classmates and yourself to them will yield much understanding about human nature and human relationships. This firsthand knowledge can be richly supplemented by your study, especially in the fields of psychology, history, political science, and sociology. In helping to choose your leaders as wisely as possible, in cooperating with them on committees and assigned tasks, and in the use of your talents for the service and pleasure of your chosen groups you can gain valuable experience. When the opportunity comes to try out your own powers as leader in any capacity, you should study yourself in the same objective way that you have studied your leaders. A faculty adviser or friend may prove helpful in your self-appraisal of strengths and weaknesses and in the planning of your program of leadership training.

ACTIVITIES INVENTORY

In which student activities do you wish to engage?

Select from the following motives those which will influence your choice. desire for recreation, desire to make friends; desire for popularity and prominence; further development of known interests and abilities (list); exploration and development of new interests and abilities (list); vocational training or experience; opportunity for self-expression, development of social skills; development of leadership; loyalty to a group of your college. (Add others.)

Number your motives in order of their importance, in your judgment, as bases of choice of activities.

List under each of the following headings the activities in which you hope to engage while in college. student-body government and activities; publications; athletics; social clubs or organizations; religious and social-service activities; for-

ensic or dramatic activities, music and art, departmental clubs or organizations, honor societies and service clubs, other activities.

Inform yourself as to qualifications for membership in each activity listed   For which ones can you qualify?

Map out a tentative program of student activities for yourself. How many activities should you have in any one semester?

What offices or other positions of leadership do you now think that you would like to hold?   For each position describe the requirements and the qualities of leadership that are essential or desirable.   Compare yourself with each description to see how nearly you might qualify at present   Cross off your list any that seem clearly undesirable for you after this first comparison   Map out plans for working toward the qualifications for the remaining positions

SUGGESTED READINGS (see Selected References, pp   171-183) 3, 24, 55, 58, 95, 105, 109, 139, 148; 151, 159, 198, 203, 224

VALUES IN COLLEGE STUDIES

Are you developing a plan for your college studies in harmony
with your interests, abilities, and goals?

With what choices are you faced in planning your program?
Before World War II, the most typical situation for fresh-
men was that in which about half of the work was prescribed
and the remainder was optional, though some of this had to be
selected from certain subject fields. During the war many
colleges changed their procedures to meet the training needs
of the armed forces, war industries, and civilian defense. Since
the war educational institutions have been faced with the
problem of revising their courses of study because of the diver-
sified needs of returning servicemen and -women and the in-
creased awareness of the necessity of educating for world-wide
citizenship and lasting peace. Reports of numerous commit-
tees studying these conditions indicate widespread recognition
of the responsibility of institutions of higher learning for the
provision of common learnings for our future leaders in order
that there may be intelligent cooperation among all citizens
in striving for accepted goals in a democratic way of life.

These trends may not alter radically the amount of required
and elective work for freshmen, but they are likely to produce
marked changes in the patterns of courses that are offered.

You should study the purposes of your college requirements
and electives as stated in your college catalogues or explained
by your instructors and counselor. Thoughtful consideration
of these purposes will help you to realize the best values in your
college studies. This planning requires answers to three major
questions

1. For what values should I strive in required work?

2. What choices of courses should I make within prescribed
fields?

3. Which electives should I choose?

What are some of the problems encountered in planning a program suited to your needs? Many students have gone through four years of college without even facing this question seriously. They have assumed that they were somehow becoming "educated" by acquiring the requisite units of credit for a degree. Having "taken" a particular subject under such circumstances is similar, it has been suggested, to having had pleurisy or a boil—an experience to get over as quickly and easily as possible and preferably with no aftereffects! To some students there are two all-important questions: "What are the requirements for a major and for graduation?" and "What are the snap courses?" For other courses they reach blindfolded into the grab bag. To the student who seriously considers values in his college experience, however, the curriculum often appears perplexing as he tries to choose courses that may serve as steppingstones to his goals.

Increased knowledge. This difficulty in making a choice of courses is widespread, and it often baffles members of a faculty as well as students. It is attributable in large part to the instability of a period when knowledge is increasing and conditions are changing so rapidly that the perspective needed for making sound judgments is not easy to attain. Educators strive to provide opportunities that will help young people to live more effectively in a changing civilization, but there is still much lack of agreement as to what the nature of this modern education should be.

What has caused this uncertainty among educational leaders? Before scientific investigation began to expand the boundaries of our knowledge, it was possible for a scholar to assume that he had mastered the essentials of human knowledge. Today no one would entertain such an ambition. Scholars and research workers, realizing the futility of efforts at comprehensive mastery, have tended to narrow their study to specific aspects of their fields of interest. This has resulted in a tremendous increase in scientific information about the universe and its inhabitants. The application of this knowledge has vastly increased our ability to control and modify our physical world. It has not yet increased in like degree our ability to cope with individual and social problems of living in the changed physical world. The atomic bomb has clearly demon-

strated the necessity for the social control of the use of scientific knowledge.

The elective system. For many years prophets of doom have voiced the warning that our civilization will not survive without greatly increased mastery of the social forces in our lives. Glenn Frank has stated that "we are reaping the Dead Sea fruits of an era of overspecialization in western civilization" and urged as our imperative task today the education of man for "the creation, comprehension, and control of his social order." He illustrated the difficulties encountered in achieving this sort of education by recounting an incident in a Missouri hayfield. Among six men who were putting up hay was a "swashbuckling braggart" who bet five dollars that he could stack all the hay that the five others could pitch to him. They took the bet and began pitching in earnest. "When the betting braggart was up to his neck in hay he could not handle, he managed to extricate himself from the mass of unstackable hay, slid off the stack, stuck his pitchfork in the ground and said, 'Damn it, stack it yourself!' In like manner," said Glenn Frank, "overwhelmed by new knowledge that the researchers were pitching to them faster than they could manage it, the educators slid off the stack, and turning to immature students said, with the profanity deleted, 'Stack it yourselves!' It was thus that the elective system was born" (89, pp. 211-212).

In fairness to the elective system, we should recognize other factors that encouraged its being. Increasing knowledge about individual differences and the nature of human growth has shown that the needs of no two individuals are exactly alike and that growth does not take place merely as the result of acquiring ordered knowledge. Experience has demonstrated the truth of the warning by the philosopher Bergson that the difficulty in trying to confine life in molds is that the molds may crack. The expansion of human knowledge, changed conditions, and the stresses of war have cracked the molds of the traditional college curriculum and have challenged educators to much earnest study and experimentation.

General education. Courses of study are as varied in different colleges as their purposes, which were discussed in Chap. I. However, there is fairly general agreement that the college student should become oriented in the vast field of human ex-

perience, refine his standards of value, and improve his ability to live in harmony with these standards and his understandings of life and of self. There is much less agreement as to the methods by which these ends may be achieved. Experimentation ranges all the way from a fixed curriculum based on a theory of the need for mental discipline to a very flexible program—tailor-made, as it were, to fit each individual. But the majority of colleges provide for the general orientation in the first two years and for more concentration in succeeding years.

These experimental programs may be classified into a few major groups. 'One, emphasizing the value of mental discipline, advocates the mastery of the intellectual traditions expressed in the great books of the Western world from Homer to the present day. A second group, believing that a college should acquaint its students with broad basic fields of knowledge, provides opportunity during the first two years for study in such areas as physical, biological and social science; the humanities; and English composition. A third includes those colleges which are more directly attempting to assist the student to meet basic life needs through direct study of the nature and relationships of the various aspects of living. Here content is more likely to be organized around problems than within traditional subject areas, but there are many variations. One approach is through the analysis of adult activities and the organization of courses dealing with problems of effective participation in adult life. Another has been built upon surveys of the needs of adolescents and young adults and deals with orientation in personal, home and family, vocational, social, and civic life. Still another approach begins with the study of each individual student around whose interests, abilities, and needs a program is carefully planned. Much responsibility is placed upon the student for ascertaining his own needs and for planning and carrying out his program with the guidance of a faculty adviser (164). Some institutions in this third group allow students to pursue special interests in their early college years and provide opportunity for more general orientation in human knowledge in the later years. Others, like the great majority of colleges, provide for the general orientation in the first two years and for more concentration or specialization in succeeding years.

Credits and marks are being discarded in some of these experimental situations. One substitute is that of comprehensive examinations in which students can demonstrate the extent of their competence in broad areas of human learning; another is guided independent study in which adviser and student can cooperatively evaluate progress and plan next steps in the light of discovered interests and needs.

The elements of general education have been rather simply described by T. R. McConnell, who served as chairman of a committee during World War II to recommend a plan for the off-duty educational program of the armed forces:

General education should enable the student:

1. To understand other persons' ideas correctly through reading and listening, and, in turn, to express his own ideas effectively to others.
2. To understand the dynamics of human behavior as a means of attaining a sound emotional and social adjustment
3. To improve and maintain his own health and to aid in making the community a more healthful place in which to live.
4. To enjoy a wide range of social relationships and to work cooperatively with others in common enterprises.
5. To acquire the knowledge and attitudes that are the foundation for a satisfying family life.
6. To take an active, intelligent, and responsible part in public affairs of the community, state, nation, and wider international scene.
7. To enjoy the natural environment and to understand the application of scientific facts and principles to human affairs; to understand and appreciate scientific method and attitude, and to use them in the solution of personal and social problems.
8. To understand and to enjoy literature, art, and music as an expression of human experience in the past and in the student's own time; also, if possible, to participate in some form of creative, literary, artistic, or musical activity.
9. To recognize the values implicit in his own conduct and in concrete social issues, to examine these values critically, and to develop a coherent set of principles for the evaluation and direction of personal and social behavior.
10. To think critically and constructively in dealing with a wide range of intellectual and practical problems.

11. To choose a vocation that will enable him to utilize his particular interests and abilities and to make his work socially useful.*

McConnell states that general education has in practice come to represent the primary function of education during the last two years of high school and the first two of college, also that it may be looked upon as the foundation part of a liberal education, preparing for the exercise of the ordinary functions of citizenship and for the intelligent leadership to be expected of highly educated members of the community.

As you can see, the spirit of experimentation and change is abroad in the colleges, and as a student you may play a part in a movement that proves to be epoch-making. J. D. Russell, of the University of Chicago, has prophesied that one of the most radical innovations, "the functional † organization of subject matter courses—if it proves successful—will revolutionize the plan of subject-matter organization that has been fixed for more than two thousand years in Western civilization" (164, p. 189). Of course, mere change is not necessarily progress. Only tested experience will show what is best in the present divergent practices. H. M. Wriston, president of Brown University, commented on them wisely when he wrote:

Often the change will be more valuable in keeping the teacher and the student alert, in bringing a sense of freshness, in breaking up routines that have fallen into ruts, rather than in any direct or immediate effect upon the theory of general education . . . *Much educational change consists in the rediscovery of old truths by seeking them along new paths* (164, p. 321).‡

What benefits can be derived from college studies? Your approach to this problem will depend somewhat upon the nature of your college curriculum. If it is organized around certain

* Reprinted by permission from "Higher Education and the War," The *Annals of The American Academy of Political and Social Science*, 231.86, January, 1944.

† The term functional refers to the organization of content around interests or problems of living instead of within a traditional subject Materials from many subject fields might thus be brought together as they proved helpful in the study of a problem Use rather than research areas would be the criterion for organizing the materials of a course.

‡ Italics are the present author's.

aspects of life with which you are familiar, you may see imme-
diate values more easily than if courses are kept within tradi-
tional boundaries of subject matter. Whatever the organiza-
tion, the values are there to be appropriated and cannot be
attained without thoughtful effort. Following is a partial list
of values for your consideration. You may wish to add others.

*Contributions to an understanding of the physical and social
world in which we live.* The physical sciences and mathematics
are the largest contributors to an understanding of the physi-
cal environment. Insight into the nature of human life and
social relationships should be clarified by study in the biological
sciences, psychology, history, economics, political science, and
sociology. Art, music, and the world's literature may bring us
insights and appreciations in all aspects of existence, and lan-
guages may give us keys to realms that can never be explored
fully through translations. Philosophy and religion may help
us to organize and interpret our experiences in the world of
people and things.

Contributions to self-knowledge. All the understanding that
you can gain about the world in which you live and about other
human beings will help, when you turn the spotlight on your
self, toward an understanding of your own nature, the inter-
pretation of your motives and desires, and your orientation in
the world. A glimpse of the vast sweep of the human drama
as it has been played down through the centuries and a grasp
ever so slight of the concepts of space and time that science
is revealing must give additional perspective. The rapidly in-
creasing store of knowledge about both animal and human be-
havior that psychologists are accumulating holds tremendous
possibilities for self-knowledge and self-mastery. Literature,
music, and the arts may yield understandings about self
through vicarious experiences in the lives of others. Prac-
tically any subject in the curriculum affords opportunity for
testing special aptitudes and may therefore contribute to wise
decisions as to where the most intensive efforts should be di-
rected.

Contributions to self-development and self-realization. The
modern college curriculum affords a wealth of opportunities
for the well-balanced development of personality. Courses in
physiology, physical and mental hygiene, and physical educa-

tion contribute directly to good health. Any field of study that increases a student's perspective on life may add to his poise and balance. The application of comprehensive knowledge about many aspects of life in the development of a wholesome regimen of living should contribute to health. There are indications that the college-trained person may be healthier and longer lived than the general run of the population.

Opportunities are present in almost every subject of study for the development of interests, skills, and appreciations that may serve as means for creative self-expression, recreation, and the enrichment of leisure time. Experiences in the sciences (physical, biological, psychological, and social) and the humanities (languages, music, art, and all forms of human expression) should contribute understandings, appreciations, and skills needed for intelligent and effective participation in home, social, and civic activities.

Contributions to vocational and economic competence Vocational success depends not only on competence in a particular field of work but on a person's total personality. Habits of work and play, traits of character, ability to think clearly and soundly, skill in oral and written expression, and facility in getting along with others have been shown to be basically important for satisfactory adjustment and progress in most types of work.

Understanding of occupational trends and of specific requirements for contemplated work is essential. Flexibility and versatility are also needed to meet new conditions as they develop inevitably in our modern world These requirements suggest the importance of a general, cultural education before vocational specialization begins.

College students should become intelligent about consumer as well as producer problems. Effectiveness in this area involves wisdom in the use of income, time, and energy. It involves skillful discrimination of values in the selection of desired material goods and of services and activities, since those who produce and distribute goods and services are generally operating under a profit motive. Contributions to the refinement of tastes, appreciations, and standards of values are inherent in all cultural courses, but the economic and scientific aspects of consumer education are less adequately dealt with in most

college courses. The student may need to be alert to appropriate the indirect contributions of his studies in this area.

Contributions to the building of a life philosophy and the development of aesthetic and ethical standards. A life philosophy serves as a touchstone or criterion for living. Without one much of our living is meaningless and unintelligent. A working philosophy should be as comprehensive as experiences and should grow and change to include interpretations of new experiences as they occur. There is no real experience that does not in some way, either consciously or unconsciously, make its contributions to our life philosophies.

Appreciations are often by-products, rather than goals consciously striven for, yet they constitute some of the most important values in life and should not be left to chance. The truly educated person has developed standards of beauty and worth in the various expressive arts, ethical standards and ideals for human relationships, and appreciation of the value and elusiveness of truth. We know much less about how these values are achieved than about the acquisition of knowledge and skill, but experience would suggest that he who strives and seeks for them is the finder. However, note the word *strives*. It is the earnest seeker, not the dilettante, who succeeds in the quest.

Contributions to significant social and civic living. The individual who has explored the social heritage of the race should have acquired a wealth of resources that will make him an interesting and useful member of society. With sound self-knowledge, broad and deep understandings about the social world, and historical perspective, he should be able to contribute helpful leadership in some areas of living and enlightened followership in others. Liberal studies in the early college years should open the eyes of each individual to unsolved human problems that strike fire in the imagination and weld purposes of devotion and service in civic life.

These purposes and motives of service must, however, be accompanied by suitable *techniques of thought and action* to produce results. Problems in the area of human relationships cannot be dealt with in the same manner as those in the physical realm where conditions can be reproduced experimentally to test theories or principles. In human interaction there is

always the unpredictable and the unknowable, both in the individual and in the interrelationship, and each situation is therefore somewhat different from all others. History and the other social sciences provide a helpful background for analyzing and understanding human situations, but they yield no ready-made solutions for human problems. College learning is most helpful in this area when it provides not only *knowledge* about human beings and their ways of life but also *experience in thinking* creatively about actual human relationships involved in current issues and *practice in working* in groups that are striving to achieve certain goals. Only thus will one come to know and feel the subtleties, intricacies, and uncertainties of human interrelationships.

Skilled, unselfish, and responsible leadership is acutely needed in human affairs—political, economic, and social. Academic study and student activities in college can meet at this point in their contributions toward preparation for responsible living and service (71).

What are the interrelations between the different subject fields? Each subject field represents organized information about some phase of life. There are techniques for securing this information, for interpreting it, and in most fields for applying it. Scientific fields offer the best illustrations of techniques, with experimentation for discovering and verifying truths, statistical methods and logic for interpreting data, and technological branches for applying and using knowledge. Similar methods have been attempted in the social studies, but the rigorous controls of experimentation in the physical and biological sciences are not usually applicable to the study of human behavior. Philosophy represents attempts to organize and interpret all fields of human knowledge.

Life as we experience it from day to day is not divided into compartments as is the curriculum. Divisions are important for research, but for living we need to appropriate information from various fields and to learn to integrate it in thinking about human problems. Unless this process is begun in high school or college, much of the value of study is lost, since information not assimilated and used is soon forgotten. With it, education becomes a directive point rather than a terminus and lays the foundations for a lifetime of well-directed obser-

vation, study, and thinking that may serve as a basis for effective living.

A realistic way to stake out natural boundaries of knowledge is to consider what subject areas might contribute to some phase of living; for example, intelligent participation in a home. Consider the contributions of the various sciences and humanities to the understanding of the physical aspects of the home, the establishment of fine human relationships, the rearing of healthy children, the management and control of economic and hygienic factors, and the achieving of an artistic and cultural environment. What subject areas would you omit from the list of contributors?

What are important considerations in selecting courses? If the "grab-bag" method is to be avoided, you must set up certain criteria for making choices and plan your program of study for the total college period instead of piecemeal each semester. Purposes in attending college should serve as the most important criteria for choosing courses. These purposes have been considered earlier in order to furnish a basis for thought concerning this problem.

Specific purposes vary among individuals, and each student should list his own to compare with those of the courses that he may select. The following criteria are important to consider in choosing any course:

1. What can it contribute to my understanding of the physical and social world?

2. What can it contribute to my understanding of self?

3. How can it contribute to my personal development?

4. How can it contribute to my preparation for vocational life?

5. How can it help me to improve my standards of value?

6. How can it contribute to my social and civic competence?

Other questions that are important to consider are:

Have I the requisite abilities and preparation for this course?

Will the contact with the personality of the instructor be valuable?

Am I concentrating too narrowly in a few fields? or

Am I sampling so widely that I shall lack the necessary preparation for my contemplated lifework?

A balance between narrow specialization and a too super-ficial sampling is difficult to achieve. In some technical fields the requirements are so rigid that little choice is left to the student. However, the rapidity of change in technological processes and the variations in demand for workers in specific fields have led many technical schools to place greater emphasis upon fundamentals and breadth of training and civic compe-tence than upon preparation for a narrowly specialized field. A good engineer, for example, must first of all have a sound foundation in the sciences and fundamental principles under-lying all engineering and only secondly have specific training in a branch of engineering, such as civil, mechanical, or elec-trical. During World War II the need was urgent for workers who could engage in cooperative research that required a broad foundation of knowledge in many fields.

In planning a program of studies, however, you must know the specific requirements for your vocational field Problems of vocational planning are considered near the end of this book, since a background of self-knowledge is needed to formu-late plans intelligently.

Questions such as have been raised here should be considered anew each semester in making selections of courses and in re-adjusting your plan if the goals have changed as a result of new experiences.

Planning Your Program of Studies

What benefits are you deriving from your present studies?

Appraise each of your present courses with respect to the criteria listed on page 86, and write down in your notebook the benefits that you expect to derive from each course Discuss your notations with your instructors, and add to your lists other benefits that may be suggested in these inter-views Are you now gaining these benefits? How can you overcome any obstacles?

How can you plan your total program of studies wisely?

What are your college goals? Examine the lists of purposes and goals prepared during your study of Chap I to see if they have changed in any way. It may prove helpful to compare them with a new set such as the following under-standing about the world, understanding of self, prepara-

tion for vocational life; preparation for home life; effective use of leisure time; social competence; responsible citizenship. Revise your list to bring it into harmony with your present thinking.

What are your educational needs? List your major interests, your abilities to be further developed, weaknesses or limitations to be overcome, the requirements for your contemplated lifework, and other demands for effective living. Review the suggestions on pages 82-85, and before completing your list note evidences of weak and strong aptitudes, school marks, tests, difficulties and successes in courses, achievement in other activities, and judgments of instructors or counselors. These needs should be the criteria for judging the values of various course offerings.

What courses will best meet these needs? For each of your important interests and needs list available courses that offer promise of contributing something of value. You may need to consult your college bulletin in order to avoid omissions. Then map out a tentative program of courses for each semester or term that you will spend in college. You will of course consult your adviser in setting up this program. It will doubtless be changed in some respects as you move ahead, but it should serve as a general guide in planning each semester's work.

How shall you use your college studies in your living?

Make a list of the problems that interest you chiefly at the present time. For each of them consider the following questions:

What facts do you need in order to think about and solve these problems?

What subject fields in the curriculum would give you these facts?

Does any one of these problems involve several subject fields? If so, what does this fact indicate about relationships between subject fields? Are hard and fast boundaries between them artificial?

List for each problem below the subjects that might furnish helpful information and points of view:

How to plan your lifework.

How to establish a healthful program of living.

How to get along better with other people.

Whether or not to invest in a new oil venture.

How to decide intelligently about the relative merits of a property tax and a sales tax.

How to choose a mate and be a good parent.

How to be a good critic of music, literature, and works of art

How to overcome race prejudice.

Map out a tentative outline of your program of studies for the years that you expect to remain in college. Consider the reasons for the inclusion of each course.

Does high scholarship in college count in later life? Numerous investigations have indicated the possible bearing of high scholastic attainment upon later success, though the results of such studies do not always agree. One study includes the living graduates of twenty-two American colleges that have had a chapter of Phi Beta Kappa for at least twenty years previous to 1900 Membership in this honorary society was used as the criterion of success in college, and mention in *Who's Who in America* as the criterion of success in life. The average percentage of the Phi Beta Kappa graduates mentioned in *Who's Who* was 5 9, although the average percentage of the rank and file of living graduates so mentioned was 2 2, suggesting that the Phi Beta Kappa man's chances of success as measured by this criterion are nearly three times those of his classmates as a whole.

Another study, which included all the graduates of the bachelor-of-arts course in one university for a period of forty-five years, utilized as measures of achievement both inclusion in *Who's Who* and ratings of success and eminence by alumni. The author of this study found almost monotonous similarity between the quality of scholarship in college and achievement in later life. He concluded that if a student belongs to the highest tenth of his class in scholarship, his chances of achieving a distinguished career in life are forty times as great as they are, on the average, if he belongs to the lower nine-tenths and that his chances of being listed in *Who's Who* are fifty times as great. He asks, "Is there another test in a young man's life that affords as certain a prophecy of the future as his four years' college record?" and suggests that the same

qualities—intelligence, hard work, faithfulness, and persistency —are basic for success both in college and in later life (207).

Similar studies have revealed the same general tendency for the higher ranges of scholarship in college to be associated with larger percentages of eminence or achievement in later life, though several such studies have shown considerable fluctuation of the tendency with the lowest ranges of scholarship. There is some evidence in a few of these studies to suggest that these fluctuations in the lower ranges may be due in part to the choice by the less successful students of occupations that do not require high scholastic capacity but that afford opportunities for the manifestation of other qualities requisite for success. For example, one study by Gambrill revealed a closer relationship between extracurricular activities and later income than between scholarship and income for those who had entered business and revealed the reverse of these relationships for those who had entered teaching, law, or the ministry (94, p. 48).

In contrast to these findings are the results of an attempt by the American Telephone and Telegraph Company to discover the possible relationship between scholarship in college and later progress in the Bell system. The index of progress used was that of salary increments, on the ground that in a large organization like the Bell system salary is an unusually accurate index of responsibility and authority. The employees were divided into four groups—those graduating in the first tenth of their class; those graduating in the first third but not the first tenth; those graduating in the middle third; and those graduating in the lowest third. The records of 3,806 men were studied. The range of salaries within each of these groups was quite wide, of course, indicating many exceptions to general tendencies, but the comparison of median salaries of the different groups is very suggestive. Ten years after graduation the median salary of those who had been in the first tenth of their class was 10 per cent more than the median salary of the entire group; twenty years after graduation it was about 30 per cent more than that of the median of the entire group; and thirty years after it was 55 per cent more than the median. Thirty years after graduation the median of those in the first third of their class was 20 per cent more than the

median of the entire group; for those in the lowest third the median was 20 per cent below that for the entire group. Those making the study concluded that there is a direct relationship between high marks in college and salary progress afterward in the Bell system. The study gave evidence that "substantial campus achievement" in activities while in college did have a definite relationship to progress in the Bell system but not so much as that of high-grade scholarship (34).

In commenting on the results of this study, an official of the Bell system said:

Naturally, when an employer examines an applicant, the question uppermost in his mind is the man's record of previous performance. In giving weight to scholarship, he concludes it is evidence of how well the young man performed on his previous job   The evidence is that there are real values in this conclusion. Seekers of men of high quality have always given some consideration and weight to participation in campus activities as indicating some qualities of leadership and a development of the social instinct. . . . All of these are indices, but should be evaluated in accordance with their importance   From the viewpoint of the student, it seems clear that he should so budget his time that he gives his major attention and concentration to the important objective of his college life—education—and relate his other obligations in a proper balance to this main objective. This is an individual problem. . . .*

Personal Inventory

Are you maintaining a level of scholarship that is satisfactory to you when considered in relation to the values that you hope to derive from your college education?

Do you need to give more time to your studies?

Do you need to improve your methods of learning?

Suggested Readings (see Selected References, pp. 471-483): 9, 71; 79; 89; 90, 108; 109; 131; 151; 165; 203, 215; 244.

* Rees, Colonel R. I, "The Student's College Record as a Forecast of Success," New York, *McGraw-Hill Book Notes, Fall,* 1929.

PART II

LEARNING IN COLLEGE

LEARNING TO LEARN

Are learning methods important?

The answer to this question is unequivocally in the affirmative if we are to judge from the experience of those responsible for training millions of young men and women during World War II and of educators in various institutions. A slogan among training leaders in the armed forces was "Let no man lose his life because of what we have failed to teach him." And toward this end every effort was directed. The help of educators from all over the country was enlisted in order to provide the finest instructional materials and the best methods of teaching and learning. There was much to learn and little time in which to learn it.

A psychiatrist in the Department of Health in Yale University reports that one half of the freshmen with whom he had consulted were emotionally concerned over scholastic difficulties. These were frequently caused by ineffective study habits, reading disability, deficiencies in general information, and an inability to work independently without supervision. The majority of these students had never learned to study systematically. They knew little of how to use the library, how to organize and carry through a research project, or even how to prepare daily assignments. This psychiatrist concluded that the provision of adequate training in the techniques of study is one of the important issues of university educational policy. Classes have been formed in this institution to help students to improve their reading speed and comprehension and their other study methods (92).

The three problems noted most frequently by new students in thirteen colleges and universities cooperating in a study of student adjustment problems were in the field of study habits: difficulty in budgeting time; unfamiliar standards of work; and slow reading habits (260). A dean from one of these colleges

reports that students who have received instruction and practice in good study methods have improved their scholarship significantly.

Failing students in four colleges in Michigan were studied to discover how their needs might better be met. The findings suggested varied causes for failure. Poor reading ability, study methods, and environmental conditions seemed to be handicaps for many students. However, the directors of this project warned against all students' attempting to use exactly the same methods. They suggested that both the good and the poor students may improve their work by the examination of their study methods and conditions and by changes in their patterns of study adapted to their individual needs and abilities (110).

Can efficiency in learning be increased?

Motion pictures of athletic or other physical stunts, in which the movement has been slowed down to make possible a careful observation of each part of the process, have revealed much waste motion, the elimination of which has resulted in great increase of efficiency in many activities of this nature. Scientific management in modern business and industry has likewise demonstrated the economy of studying methods of work, thereby conserving the time and energy of workers and increasing production. One efficiency expert who made a scientific analysis of every movement involved in the task of laying brick was able to increase the efficiency of workmen about 400 per cent. Another expert studied the process of loading and unloading pig iron and worked out a schedule whereby the necessary movements were interspersed with frequent periods of relaxation. The men thus directed in the use of their physical energy increased the average amount loaded per day from 12 to 47 tons with no increase in fatigue (27, pp. 212-213).

The learning process has been subjected to much study and experimentation, and the results of researches have been applied in "How to Study" courses in many high schools and colleges with interesting results. In such courses conducted at Indiana University it was found that the average reading ability of students taking the course had increased 102 per

cent, with improvement for individual students ranging as high as 250 per cent; also that their ability to master a standardized assignment had improved from 60 to 97.3 per cent efficiency (26).

At Ohio State University probation students who were given instruction in methods of study were compared with a similar group of probation students who did not receive this assistance. Of those trained in study methods, 58 per cent were saved from academic disaster, i.e., dismissal from college, and 42 per cent were "lost"; among the untrained group only 18 per cent were saved, and 82 per cent were lost. Twenty per cent of the trained group were later listed among graduating students, but none in the untrained group had succeeded in graduating at the time of the study. A comparison of test records of those in the trained group who improved with those who did not led the author of the study to conclude that scholastic aptitude was an important factor in determining which students profited sufficiently from the training in study methods to keep themselves in school.

At the University of Buffalo, entering freshmen whose high-school scholarship had been low and who were given three weeks of intensive training in how to study raised the level of their scholarship in college work to average or better. Jones and Eckert compared the college achievement of these students in the lower ranges of their high-school classes who received training in study with that of students matched on pertinent characteristics other than high-school scholarship and concluded that the training operated over a period of time to decrease the gap in scholarship between the two groups. The benefit accruing from the special course seemed most evident in such drill subjects as foreign languages, English, and mathematics, and least evident in history and related fields (128, pp. 702-705).*

* Researches in the area of learning have dealt more with skills and the simpler learning processes than with the complex processes involved in rational learning of the type emphasized in classroom situations The natural emphasis in most How to Study courses on system, drill, and silent reading, because of the lack of research in many of the more complicated aspects of the learning process, may help to explain the variations noted above in improvement in different subjects.

What are some advantages of increasing efficiency in learning?

The answer to this question is obvious. Efficiency may be considered from two points of view: effect on quality and effect on quantity of production. If the quality of work is improved, the resultant will probably be better marks and greater personal progress. If the quantity is increased for a given unit of time, the resultant may be more work accomplished, more time saved for other activities, or a combination of these advantages. The ideal goal of increased efficiency in study is improvement in both quality and quantity of work and the freeing of time and energy for many other activities.

Since learning in any field has a bearing on some aspect of life, it should contribute to greater facility in thinking about life and in attacking or solving life problems.* It should, also, increase pleasure in leisure-time reading and open the door to many interesting cultural activities.

Do you need to increase your efficiency in learning?

What are your chief difficulties in studying? Ask yourself the following questions:

Do I find time to do all the things that I should like to do?

Do I feel under constant pressure of time to accomplish necessary work?

Do I ever waste time because of ineffective study methods or lack of systematic planning of my work?

Do I spend more time on some of my studies than I think that I should?

Do I vary my study methods to suit different subjects or types of learning?

Am I more efficient in study at some times and under some conditions than others? Do I know the reasons for these variations in efficiency and how to deal with them?

Do I sometimes study without any apparent results?

Do I ever fritter away my time doing nothing necessary, worth while, interesting, or restful?

Are my achievements and scholarship as good as I should like them to be?

* This statement does not carry any necessary implications regarding the possibilities of transfer of training from one field of study or thinking to another, since that is a disputed question today

Do I know how to increase my efficiency in study and improve the quality of my work?

The answers to these questions should give you a rough index of your need for increasing efficiency in learning.

If you have learned to swim; to play tennis, football, or other games; to typewrite; to play a musical instrument; or to sing, you have doubtless become aware at various stages in your progress of ineffective techniques that were holding you back. Probably you have been able to note improvement in your skill after changing your method or technique in some way. Study can be improved in the same manner by discovering inefficiencies, planning better methods where needed, and using the methods systematically.

Throughout this section on Learning in College, you will have the opportunity to examine your study methods in the light of research findings and tested experience and to replan your system of study to suit your needs. These plans will result in improvement only if you apply them persistently from day to day. It would be desirable to consult your instructors as you plan your methods for different fields of study.

STUDY-METHODS INVENTORY

Number from 1 to 35 on a page in your notebook, and enter the answer "Yes" or "No" to each of the following questions about your study methods. Use a question mark for any about which you vary considerably from time to time or in different subjects.

1. Do you find it difficult to concentrate or keep your mind on your work when you study?
2. Do you tend to daydream when you should study?
3. Do personal worries distract your attention from your work?
4. Have you budgeted your activities wisely so that you reserve plenty of time for study?
5. Do you have sufficient sleep?
6. Does time for self-support interfere with needed study time?
7. Do you have a satisfying program of social and recreational activities?
8. Do you eat the right kind of food?
9. Does illness or any physical disability seem to interfere with effective learning?

10. Do you lack interest in all your studies?

11. Do you lack interest in some of your studies?

12. Do you have an active curiosity to learn new facts?

13. Do you see relationships between your studies and your vocational and other life goals?

14. Do you have a suitable study environment?

15. Are you easily distracted by noise or activity in your surroundings?

16. Do you approach your work with a feeling of pleasure and enthusiasm?

17. Do you start work promptly and avoid wasting time?

18. Are you systematic and persistent in completing work on time?

19. Are you distributing your time wisely among your various studies?

20. Do you alternate different types of work to avoid boredom or fatigue?

21. Have you discovered what is for you the most efficient length of work and rest periods?

22. Have you trained yourself to work past an initial sense of fatigue and get your "second wind"?

23. Do you try to increase your speed and comprehension while reading?

24. Do you take good notes and use them effectively?

25. Do you lack adequate foundation for some of your work?

26. Can you distinguish between important and unimportant materials in your reading?

27. Do you try to relate new learnings to what you already know?

28. Can you use learned facts in thinking about problems in which you are interested?

29. Do you review regularly instead of waiting until an examination is due?

30. Are you nervous during examinations so that you fail to do your best work?

31. Have you discovered when it is best for you to study with others and when by yourself?

32. Do you have difficulty in remembering what you read or hear?

33. Can you organize materials related to a problem?

34. Can you distinguish between sound and unsound conclusions from data?

35. Do you reread materials that you have difficulty in understanding?

Encircle the numbers of any of the following questions that you have answered with "Yes": 1, 2, 3, 6, 9, 10, 11, 15, 25, 30, 32. Encircle any of the others that you have answered with "No." These encircled questions should give you clues to some of your problems of learning to which you should give special attention as we consider in succeeding chapters various aspects of effective learning.

For each phase of learning you will need to test out what methods are best for you. No one set of rules will apply equally well to all individuals. Your problem is to understand the principles of learning and apply them in working out your own best methods.

SUGGESTED READINGS (see Selected References, pp. 471-483): 27; 51; 60; 133; 135.

THE NATURE OF LEARNING

What is learning?

We are likely to think of learning merely as the process of acquiring and organizing information from books and laboratory work, solving mathematical problems, studying foreign languages, and writing papers. When we consider, however, that a large amount of the information acquired in college study is soon forgotten (see Fig. 1), the process would seem to have much less importance in our lives than we generally ascribe to it, if acquisition of knowledge were its chief aim. Four years or more of intensive study in college would be of as little value as purchasing at one time all the wearing apparel that one expected to need in a lifetime. In learning, as in shopping, the important thing is to develop skill in appraising needs and in choosing wisely among the bewildering array of possibilities for satisfying these needs. How much time and energy do we waste because we do not know what we want, where to get it, and how to use what we get?

Your presence in college should mean that you have chosen to train yourself to meet your problems of living intelligently through broad and deep understanding of life and the fullest growth of your power of learning. The habits of work that you form during college years will either help or hinder this purpose. Effective learning involves a high degree of proficiency in reading, observing, experimenting, thinking, and problem solving; in oral and written expression; and in a variety of physical, social, technical, or creative skills. An understanding of the nature of learning should help you to develop these skills and techniques more effectively.

What happens when we learn?

All your life you have been learning. Perhaps as a child you learned to fear the dark and when older learned to overcome

that fear. You have learned to like or dislike many things, and on the basis of these learnings you may choose your friends, your recreations, your studies, even your clothes. You have learned numerous skills, such as swimming, tennis, type-
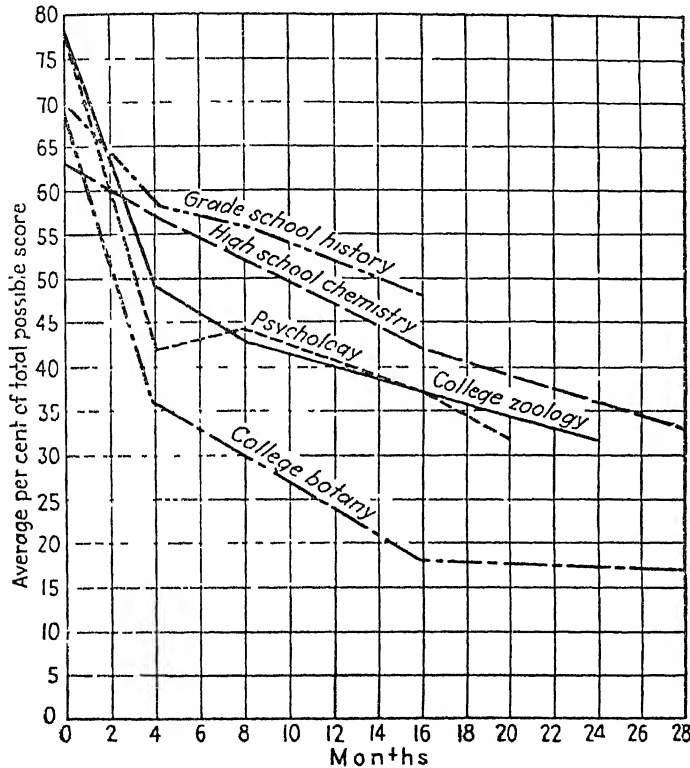
Fig. 1—Retention of one elementary school subject, one high school subject, and three college subjects for 16 to 28 months after the end of the course (From Pressey, Sydney L, Psychology and the New Education, reprinted by permission of Harper & Brothers, Publishers, New York, p 100)

writing, or playing a musical instrument. You have acquired much information and probably some misinformation about yourself and the world around you. All these learnings and many others have involved changes in your behavior. Some may have occurred without awareness on your part; others have been the result of conscious and oftentimes persistent effort.

Unintentional learning. Your early fear of the dark was not
the result of your own effort but of something that happened
to you. Experiments with young infants have shown that a
baby who will pat and stroke the fur of a rabbit under favor-
able circumstances may draw back with fear if a loud noise
is sounded when he is given the rabbit and may thereafter
show signs of fear in the presence of a rabbit or other furry
animal if the association is not in some way unlearned. The
baby is naturally afraid of a loud noise, but he *learns* to fear
the rabbit. Probably many of your fears, likes and dislikes,
loves and hates, and specific types of conduct have been de-
veloped in this manner as a result of certain experiences and
have tended to persist as modes of behavior. This process of
unintentional learning which is called *conditioning* should be
understood and controlled as much as possible, since it con-
stantly affects your conscious learning. We shall consider in
a later chapter ways of influencing this process through the
control of attitudes and environmental conditions.

Intentional learning. This type of learning, designated pre-
viously as study, seems to involve two sorts of processes: those
which require practice or repetition, as in the acquisition of
skills, and those which require the grasp of meanings, as in
the acquisition of organized knowledge and the noting of rela-
tionships of various sorts. Both processes are probably pres-
ent in most learning situations in varying degrees. However,
methods and results differ sufficiently in *skill-learning* and
knowledge-learning to warrant our considering them sepa-
rately.

Skill-learning. In the acquisition of skills, such as typing,
playing a musical instrument, skating, swimming, or learning
to speak a foreign language, we engage in a repetition of trials
each one of which may be somewhat different, since a definite
pattern of habits has not yet been established. Eventually the
response may be quite unlike the early trials owing to the fact
that many elements of the practice responses have been elim-
inated. The efficiency of the learned response will depend
partly upon whether or not undesirable elements of the early
trials have been displaced by effective ones.

This sort of "trial-and-error" learning is illustrated in a
simple form in the example of animal learning. If a hungry

cat is confined in a cage with food on the outside beyond reach, it may at first attempt to escape by apparently random efforts. It tries to squeeze through any opening, claws and bites at the bars or wires or anything within reach, and eventually will by accident claw the string, loop, or button that opens the door and allows it to reach the food. When placed in the cage a second time, the cat may repeat many of the former trial-and-error responses until one again is successful. During many trials, the nonsuccessful responses are eliminated, and eventually the successful response is exhibited as soon as the cat is put in the cage. Note that an important condition of this experiment is that the cat should be hungry. A novice who once tried the experiment with a well-fed cat found that it curled up and went to sleep in the cage! Is this situation ever paralleled in human learning?

Knowledge-learning. Animals, like human beings, vary in their learning methods. Pete, a seven-month-old cat who had been in the laboratory for several weeks, vigorously resisted being put into the puzzle box the first time; but once in, he sat in the center and looked around, then walked slowly and quietly around the box without touching any part of the walls. After nearly 10 minutes, he took hold of the loop that controlled the door, drew it to his mouth, pulled, and came out as the door opened. The second time that he was put in the box, he sat in the center and washed for 3 minutes, then looked around for 2 minutes more, went direct to the loop of string, and let himself out as before. Through eighteen trials he made no random efforts to escape but concentrated upon the loop of string. After the first two trials he always got out in from 2 seconds to 2 minutes (257, p. 751).

Pete seemed to learn the relationship between certain objects and his goal, the food outside the box, without trial and error. Learning that involves the gaining of *insight* into a situation through the noting of pertinent relationships appears to differ frequently in at least one important respect from the learning of *skills*. Once the needed insight is gained, improvement may take place suddenly, instead of in the more gradual manner apparently essential in skill-learning. Numerous repetitions of an appropriate response depending upon insight may not be necessary to perfect or retain it. Some psychologists believe

that the value of repetitions in skill-learning may be in the new understandings of relationships that emerge during practice.

A few examples from animal experiments may help to clarify what is meant by insight. Kohler found that a chimpanzee in a cage would readily use a stick lying close at hand to poke at a banana too far away to be reached directly by the hand, but that if the stick were placed far away from the animal, he might not see it and use it so soon. One chimpanzee learned to join two pieces of bamboo into a long stick to reach distant objects; the solution came suddenly after an hour of trial-and-error behavior and showed unmistakable evidence of insight or seeing a combination of objects. One box or even several boxes were brought to the spot where food was placed too high to be reached by jumping, and sometimes several were piled one on the other to reach the food. The chimpanzees with which Kohler experimented solved with ease any problem that involved a roundabout path to the objective, provided every step of the path were in clear view in order that they could eventually grasp the situation as a whole.

A comparison of the trial-and-error learning of the imprisoned cat, needing many repetitions to fix the right response, with the more rapid insight learning of the chimpanzees reveals the greater economy of insight learning. Human learning involves both processes but offers greater opportunities for insight because of the nature of human intelligence. A student should be constantly on the alert to avoid fumbling blindly with trial-and-error methods where insight learning would be more effective.

Uses of intentional learning. The two types of intentional learning considered in the foregoing may not be radically different. The related activities in the nervous system may be basically the same for each. We do not know at present. Each is probably involved to some extent in most learning situations. The apparently rapid improvement that often results from the gaining of insight may be due in part to the use of previously established skills or learning in new combinations to meet new conditions (26). This possibility suggests the importance of keeping all our learned activities or habits as flexible as possible in order to use them in effective ways in varied situations.

In playing tennis, for example, it is necessary to be able to react to the stimulus of the returning ball with a variety of strokes, the most effective one depending on the player's position in the court, the speed and direction of the ball, and other factors; also, a particular stroke must be used under a variety of conditions.   Similar illustrations could be cited for the development of a usable vocabulary or the application of rules of grammar in learning a foreign language.   The linking of only one response with one stimulus narrowly limits any learning situation.

In knowledge-learning try to relate each new idea to others already acquired and to think about possible meanings.   You may read, for example, that the expectation of life at birth in the United States has increased since 1900 from approximately fifty to sixty-five years.   If you merely note this as a fact to remember for an examination, it will be quite useless and may soon be forgotten.   However, if you ask yourself why the average length of life has been increased by about one-third in this forty-five-year period and recall whatever you may know about advances in medical science, public health and sanitation, and conditions of living, you will bring together information that has significance for you and all other human beings.   If you keep the question alive through continued curiosity about the *why*, it will serve as a peg upon which to hang other observations as you make them.   Also, if you study conditions about you and your own habits of living in relation to them, you may see various ways to improve your own health expectations and to help, as an enlightened citizen, in improving them for others.   Facts thus become useful.   This flexibility in both skills and knowledge is a basis for one of the most important results of learning—*the improvement in learning to learn.*

What are the conditions for effective learning?

There must be motivation or purpose on the part of the learner. In the animal experiments cited above the cat was put in the cage in "utter hunger," and the chimpanzee was lured with a banana.   Rats must be hungry, thirsty, or under some other "drive" to learn a maze but will endure fear or pain to reach the desired goal.   *Clear-cut purposes or goals for the learning activity, a strong desire to attain the goal, and a definite*

plan of attack based upon understanding of what is to be learned and what steps are necessary to reach the goal are some of the prime requisites for effective learning. Men facing the tests of modern warfare have learned what the motivation of a life-or-death alternative may be. The alternatives of success or failure in learning to live our lives well may be equally strong if we can see clearly the relationships between learning and living.

Active, well-directed effort is required. The effort needed is not a blind straining for results but a purposeful focusing of attention and directing of energy that will result in vivid and intense impressions and meaningful experience. Active effort of any kind is accompanied by some degree of muscular tension, the desirable amount of which differs for various activities. The wrong amount may hinder progress. *What is needed is alertness with energy organized for action.*

The kind of activity will, of course, vary with the learning. Skill-learning may require persistent practice, which should be carefully planned as to nature and as to sequence of practice periods. Trials repeated continuously during long practice periods are less efficient than those grouped in shorter practice periods and distributed over a longer period of time. The most effective spacing of practice depends, however, not only upon the individual learner but also upon the particular type of learning.

In knowledge-learning or problem solving, before a definite plan of work is evolved, there may be much exploratory activity, which provides opportunity to discover ramifications of problems that might otherwise be overlooked. Understandings may emerge gradually out of intense study or appear suddenly through the noting of new relationships and meanings within the problem or the field of study.

The learning process should be emotionally satisfying. Satisfaction in the form of enjoyment of the learning activity itself and of a sense of success in making progress toward goals greatly facilitates learning. Pleasurable emotions seem to aid learning, but any violent emotional stimulus is likely to disrupt the learning process. Temporary obstructions to the desired achievement, which may even include failures, often challenge

one to greater effort and result in improvement. Frequent checks on progress in relation to goals or purposes are helpful.

What do learning curves tell us about the learning process and study methods?

Characteristics of the learning curve. Many experiments have been conducted to discover the effects of practice in various types of learning situations and have given us much information about the nature of the learning process and the conditions and methods that result in the best improvement. When the data of such experiments are plotted on charts, we have what are called learning curves. These learning, or practice, curves generally show either the progressive *amounts of time* required to do a unit of work in successive trials or the *amount of work* done in successive units of time. Although these two types of curves are in form the reverse of each other, they really tell much the same story but in different languages, as it were. One needs to be interpreted in terms of the other to avoid confusion of thought. If amount of time required to perform a unit of work in successive trials is being shown, the direction of the curve is usually downward, from left to right; and if the amount of achievement in successive units of time is being shown, the general direction of the curve is usually upward, from left to right. This difference may be confusing at first, but a thoughtful comparison of the two types of curves will show that the same general tendency is represented in each.

An actual practice curve always shows many fluctuations from the smooth curves shown in the foregoing chart, but the general trend usually *approximates* one of these forms. The tendency in the curves for skill-learning toward less and less improvement in successive trials compared with previous ones is called negative acceleration and may be compared with similar phenomena in the physical world. If a ball is thrown, we know that its forward speed grows less and less the farther it goes until it finally touches the ground. In the two types of learning curves in Fig. 2, the parts paralleling the base line represent zero acceleration, or the physiological limit of improvement. This limit is probably seldom reached in most forms of activity except relatively simple motor acts. An example of physiological limit may be seen in the 100-meter dash,

since no one seems to be able, with the best training, to lower
the record much below 10.3 seconds.

Many learning curves show several periods of little or no
improvement.   These are called plateaus and often represent
times of discouragement for a learner, because efforts appear
to yield no satisfactory results.   However, unless physiological
limits for an activity have been reached,* which is probably
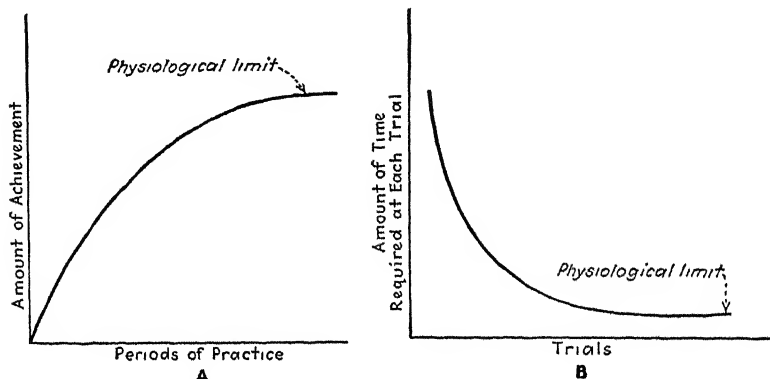seldom the case, the plateau is often followed by a rapid rise

Fig. 2.—Two types of learning curves.   A indicates amounts of achieve-
ment in successive units of time, B indicates amount of time required to
perform a task in successive trials.

or fall in the learning curve (depending on the type), repre-
senting rapid improvement.   This has been interpreted in some
cases as indicating that real progress, perhaps more rapid
progress, was actually being made during the plateau period
but that for some reason it was not manifested.   Figure 3,
which shows a telegraph operator's learning curve for receiving
letters, words, and connected discourse, gives good illustrations
of plateau periods of little apparent improvement followed by
periods of rapid gain.

The usually accepted explanation of this particular situa-
tion is that after the initial period of practice, the gain results
mainly from the development and perfecting of new hierarchies

* For mental activity in various types of study this would involve limits
of reaction time, the limits of neural activity in such functions as dis-
crimination of tone, pitch, size, color, weight, etc, retentiveness, and asso-
ciations involved in the higher thought processes.

of habits, so that the operator learns to receive or send words instead of letters and finally phrases or whole sentences. The change to a new hierarchy of habits is generally accompanied by a period of little or no progress in measurable achievement, and many become discouraged at these times and drop out of
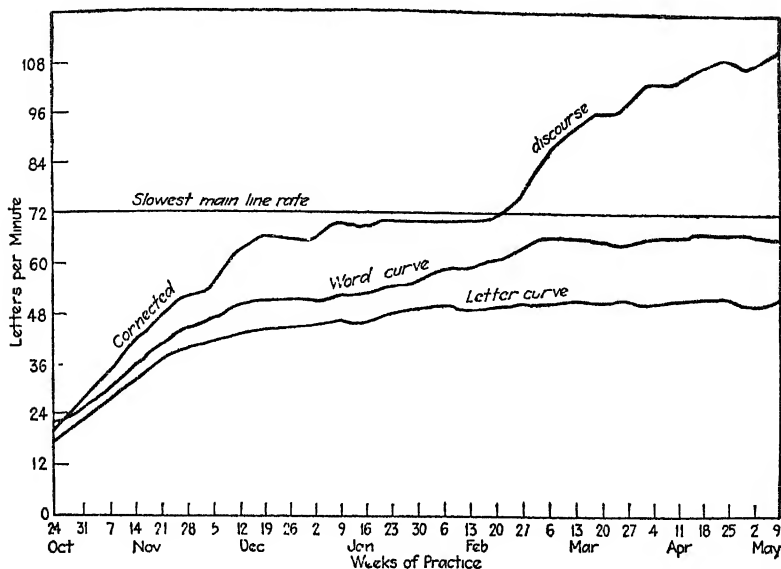
Fig. 3 — Improvement in telegraphy analyzed   (After Bryan and Harter)

the work. Skilled operators who have passed beyond these plateaus testify that each new step seems to cost greater effort than the previous one *

Application of the learning curve to study methods.

A means of measuring improvements. Interest in improvement greatly facilitates learning. The charting of one's achievement in various subjects and types of activity, by the making of learning curves, affords a simple and convenient

* Recent experiments with the learning of the telegraphic code have shown a surprising lack of plateaus and suggest that they may not be necessary Perhaps better understanding of learning processes and improved methods of work would eliminate many of these discouraging periods Reported by Donald W Taylor in "Learning Telegraphic Code," *Psychological Bulletin,* 10 161-187, July, 1913

means of evaluating progress and often serves as an effective incentive to further effort through introducing the element of competition with one's self. Results can be measured in terms of amounts of a given type of work accomplished in stated periods of time, amounts of time required for a unit of work in successive study periods, quality of work done in relation to the time spent—judged in terms of marks, tests, accuracy, etc. The aim is, of course, the largest amount and the highest quality of work in the shortest period of time, and it is no easy task to discover and establish a desirable balance among these three factors. With a little thought and ingenuity a student can work out devices based on the learning-curve graph for appraising his accomplishments roughly over a period of time.*

How to deal with plateaus. An understanding of some of the common causes of plateaus and ways of dealing with them will often shorten their duration or may even prevent their appearance. Among these causes are the following: wearing off of the novelty of new work, lack of interest, fatigue, poor or ineffective habits of work or the perpetuation of errors, the need for new methods of work to meet new conditions and for time and practice to fix them as habits, failure to exert the intense effort required to reach a new level of activity in the work, and lack of needed insight.

Understanding the nature of plateaus and faith in ultimate improvement, combined with persistent effort, are aids in hastening their disappearance. Whatever increases interest in the task or problem and improves attentiveness and concentration is likely to help. Sometimes an analysis of the elements or steps in an activity will reveal specific difficulties and suggest desirable changes in methods. Again there may be too much attention on one aspect of a complicated task, and the problem will then be that of trying to see the learning situation as a whole (206).

Varying the study time for difficult work so that one is freshest when attempting it and experimenting with work periods of varying length may prove helpful. Whatever diminishes fatigue and improves one's general physical and mental well-being is an aid. The elimination of worry and discouragement

* See Appendix, pp. 487-488, for examples of methods of charting accomplishment

and a hopeful anticipation of improvement are facilitating factors.

The question of diminishing returns. Individuals vary widely not only in their rates of progress but in the limits beyond which effort to improve gives such diminishing returns that further effort becomes unprofitable. Often the problem becomes not that of inability to improve further but that of the relatively more profitable returns from effort directed in other channels. One may be able to improve along musical or artistic lines but find it more profitable to perfect certain mechanical or linguistic abilities. Again the question may be how much anyone can benefit from the perfection of some unimportant function beyond certain limits. Each person needs to study himself as well as the relative values of the functions he is trying to improve, to discover what for him is the point of diminishing returns beyond which effort becomes unprofitable.

Adjustment to different types of learning. The nature of the learning curve varies with the type of work. Work involving manipulative skill, such as typewriting, generally shows a steeper curve, indicating rapid progress at the beginning followed by slower improvement; work involving analytic or selective processes, such as are involved in problem solving of various sorts, may show slower initial progress and later rapid gains at various points. This difference is probably due to the effect of insight, which, as we noted earlier, results usually in rapid improvement.

The most efficient study methods for different subjects should be ascertained on the basis of an understanding of the different processes involved. These in turn depend upon the major objectives of study in each subject field. We shall consider two of these objectives at this point.

KNOWLEDGE. One should see clearly whether the information in a particular subject is to be mastered in detail, used as a basis for formulating or understanding principles or theories, or applied immediately in specific activities. The relative emphasis on each of these objectives will determine to a large extent how the studying is to be done. In beginning to learn a foreign language the mastery of much detail, including vocabulary, idioms, grammatical construction, exceptions to rules, etc., may be an essential factor. Emphasis here will be

on the skill type of learning. In a history course it may be necessary to discriminate between essential and minor data and grasp relationships of cause and effect rather than memorize a mass of details. There is greater emphasis on the gaining of insight, though many skills are involved. In a science or mathematics course mastery of many minute and accurate details may be essential to the performance of an experiment, the solving of a problem, or the understanding of a principle or theory. All these varied uses of information may be important in any one course. Intelligent, meaningful study involves an understanding of the purposes for which the information is acquired. The methods of study can then be adjusted to these purposes.

It is also important to know whether information is to be secured largely from reading, lectures, class discussions, special reports, observation and experimentation as in the laboratory, or a combination of these sources. This understanding will help one to evaluate the different activities connected with the course and to approach each with a more definite purpose and plan in mind.

SKILLS OR TECHNIQUES. Each subject has its specific skills or techniques to be mastered. These may be simple or complex manual or oral skills, chiefly mental processes, or a combination of several types. Whatever they are, they should be clearly understood, and the most economical methods should be used for acquiring and perfecting them. A foreign language requires the development of skill in pronouncing new sounds, also new habits of thought as progress is made in learning to think in the language. Skill in silent reading is needed in English and the social studies; in fact, most college courses call for this, but the types of reading will vary. Ability in note taking and oral or written expression, discriminating, observing accurately, evaluating evidence, organizing materials, thinking scientifically or creatively, and solving problems is essential in many fields. Mathematics requires skill in computation and probably in the use of tables, charts, and numerous instruments, as do science and applied technology courses. Work in the fine or practical arts involves manual dexterity and perhaps form, color, or sound discrimination.

Some of the study methods referred to here will be considered more in detail in succeeding chapters.

INVENTORY OF STUDY SKILLS

List what you consider your most effective study skills, such as reading, note taking, or remembering.

Prepare a second list of what you think are the weakest points in your study methods

Keep these lists to review from time to time as we progress through this section on study methods.

Outline ways in which you can measure your achievement in each subject that you are studying at present

Outline for each subject in your program the particular study methods that you think should predominate.

Suggested Readings (see Selected References. pp. 471-483) 26, 133 pp. 167-177; 135, pp 1-10, 171, pp 8-18, 88-93.

CONDITIONS FOR EFFECTIVE STUDY

What environmental and physical conditions are desirable for study?

General environmental conditions. In study as in all mental activity, the stimulus-response mechanism is operative and needs to be controlled. The major problem of adjustment in the physical environment is that of so arranging surroundings that desired and helpful stimuli will be received and distracting ones will be eliminated. One would have to be a hermit to achieve perfection in this respect. However, by careful planning you can usually arrange fairly satisfactory conditions in which to study. Some claim that they can actually work better where it is necessary to exert effort to shut out noise. When the urge to study is not strong, the attempt to overcome distractions and concentrate on a particular task may help to arouse and organize energy needed for the work. The effort to build up resistance to distractions, however, diverts energy from the principal activity and must be counted as so much loss.

An experiment conducted at Colgate University to discover the comparative effects of quiet and noisy environments on the work of typists indicated that 19 per cent more energy was consumed by the typist working under noisy conditions. Speed was also affected. An average gain in speed of 4.3 per cent was made when noise was reduced. The speedier the typist, the more adversely her output was affected by noise distractions.

Several experiments involving the intentional introduction of distractions during the performance of a task have indicated the following effects.

A general increase in muscular tension and in the expenditure of energy occurs in the early attempts to overcome the distraction.

Output of work may be temporarily decreased by noise or other distraction.

The distracter may break in and become the center of interest disrupting the task.

If work is continued for some time under the distraction, a second adjustment takes place in which output is maintained without the consumption of extra energy

Nervous restlessness in response to the distraction may be more disrupting than the distraction itself (257, pp 704-712).

Such findings suggest that the sound of radio, conversation, and street traffic, which may interfere with the most efficient work, should be eliminated in so far as possible. When we cannot get away from noise, we can, with the right effort, prevent it from interfering with the task at hand. Interest and a strong drive for study will help to control distracting stimuli. It is better to set the attention on the task to be accomplished and ignore distractions than to direct attention to shutting them out.

If necessary, we can learn to react negatively to movement and noise so that the attention is not distracted from work, just as we accustom ourselves to the sound of streetcars and other noises. Although you should strive for ideal conditions in which to work, it is always necessary to accept and adjust to some unfavorable circumstances. Biographies of many great scholars reveal that achievement is not dependent upon good working conditions

Objects in the surroundings may also interfere with concentration on work A room cluttered up with pictures, banners, and trophies may afford so many suggestions of friends and of activities that there is a perpetual conflict between desires to study and to think or to daydream about other things. An attractive but simply decorated room is a desirable environment for study.

Fresh air in motion, but without a direct draft upon the body, is another requisite in the study room Experiments show that a moderate temperature is more conducive to efficiency than a very cold or warm atmosphere About 68 degrees Fahrenheit is usually considered good, though an individual should discover for himself the temperature at which he does his best work. More important than temperature, however, is the circulation of air. It has been demonstrated that it is better to have the air in motion, even though the

temperature is too hot or too cold, than to have stagnant air under the right temperature. Another essential is sufficient moisture in the atmosphere. Light, loose, but sufficiently warm clothing helps to eliminate distracting stimuli due to physical discomfort.

Specific personal adjustments. The following suggestions may help in arranging a desirable environment for study.

A habitual place for study. The philosopher Kant is said to have formed the habit of thinking about his problems while gazing at his neighbor's weather vane; and when the neighbor removed it from his building, Kant considered suing him because he claimed that its absence interfered with his work. The weather vane had become a stimulus to his thinking. In the same way a familiar place in which to study immediately suggests the idea of study, and the proper reaction of starting to work becomes a conditioned response.

A suitable desk and chair. The table or desk and chair should be the right size to allow a comfortable upright posture, with the feet touching the floor. A soft easy chair that invites relaxation is undesirable, since a certain muscular tension is necessary for effective work. However, too great tension may expend energy unnecessarily. Both extremes of complete relaxation and undue tension should be avoided. There is a continuous interchange of stimuli between the muscles and the central nervous system, and a body poised and ready to act is a good concomitant of an active, alert mind. Stop and visualize two opposing football teams waiting for the signal to play, and you will have a good picture of energy organized for action. Do you study as energetically as you play? Study, like play, involves the whole body as well as the brain; hence the importance of securing the right physical conditions.

Artificially induced tensions during a learning process seem to inhibit good learners somewhat but benefit poor learners. One reason may be that good learners habitually perform at a rather high tension level, increases in which are harmful, whereas poor learners customarily work at a tension level that is too low. Which condition is more likely to prevail in your learning activities?

Helpful books and materials. Since no two persons have exactly the same needs, the suggestions as to books and materials are, in the main, general in nature. A good dictionary that gives the derivation of words is a prime essential for every student. In addition, books for general reference will be helpful for securing information not furnished in textbooks. If this information can be secured when needed, clearer associations will be formed and new phases of problems may be opened up that might otherwise remain unexplored. The time saved by having the sources of information close at hand is, of course, another advantage. With scientific information accumulating as rapidly as it does, it is important to choose such reference books for their soundness and recency of publication. Some of the most helpful, with suggestions as to the purposes for which they are useful, are mentioned in Chap. XII. Learn your own needs and gradually acquire the books that best meet these needs.

When a course is based upon a text, it is invariably desirable to own the book. Aside from the loss of time incurred in securing a copy at the library, the advantage of being able to underline passages and insert personal reactions is important. The book thus becomes a record of your mental activity while reading it, and questions raised can be more readily followed up. If other books are used regularly for reference reading, it is a convenience to own these also. However, your budget and the future value of a book for your library should enter into the consideration of what to purchase.

In arranging a study schedule first consider what work can be done most effectively at the library with easy access to books and what can best be done in the seclusion and quiet of your own room.

Adequate light. Since most study involves the use of eyesight, the right kind of light is essential. The desk should be so placed that you will not have to face a strong daylight and that shadows will not be thrown on your work. Artificial light should be sufficient to enable you to see with ease and should not shed a glare on books, papers, or desk surface. A blotter should be used to cover a highly polished desk top. The newer type of study lamp reflects the light upward and diffuses it throughout the room. If you have any doubt as to the ade-

quacy of the light where you study habitually, you should arrange to measure the amount with a light meter. Studies show that one should have at least 5 foot-candles of light on a reading surface. Where diffusion of light is quite unsatisfactory, 5 to 10 foot-candles are recommended, and 10 to 15 foot-candles where the light is well distributed.*

INVENTORY OF STUDY CONDITIONS

How satisfactory are the conditions under which you study? To how many of the following questions describing study conditions is your answer "No"?

Is your study room relatively free from noise and other distractions?

Are the atmospheric conditions of temperature, humidity, and motion of air satisfactory?

Have you adequate and properly diffused light?

Do your desk and chair fit you comfortably?

Have you ready access to needed textbooks?

Have you ready access to frequently needed reference books?

Have you a good dictionary at hand?

Have you necessary materials conveniently at hand (pencils, pen, ink, erasers, paper, notebooks, blotters, etc.)?

For each question answered "No," plan how the condition might be improved, and decide what you can do about it *now*. Estimate the cost of needed materials that you have not yet secured, and check your budget to see how many you can afford to purchase at this time.

List any conditions in the library that tend to decrease your working efficiency there. Consider ways in which these difficulties may be adjusted or overcome.

Physical and mental fitness is basically important for successful living.

The examinations of millions of Selective Service registrants revealed such a high incidence of physical defects and disease among prospective members of the armed forces that a National Committee on Physical Fitness was established by the President of the United States to study the problem. This committee was confronted by such data as the following: More

* Tinker, Miles A, "Illumination Standards for Effective and Comfortable Vision," *Journal of Consulting Psychology*, 3·18, 1939.

than 50 per cent of the Selective Service registrants did not qualify for military service before our entrance in World War II when standards were relatively high, and more than 40 per cent failed to meet the wartime standards. One out of 5 men, eighteen to twenty years of age, was found unfit for military service. For men thirty-five to thirty-eight years of age the rejection rate rose to 3 out of 5. Only 20 per cent of the men examined were classified as having no defects. An additional 35 per cent had minor defects which did not disqualify them for military service. Of the remaining 45 per cent, 7 in every 10 had more than one disqualifying defect. Health specialists affirm that many of these defects could have been prevented by adequate care during childhood and that many could have been prevented or cured by adequate community awareness of the importance of physical and mental health.

Before Selective Service registration, examinations of students in schools and colleges had shown a high incidence of disease and of physical and mental handicaps considered serious enough to limit present accomplishment and threaten future health. Table II contains estimates, on the basis of

TABLE II *—AVERAGE NUMBER OF STUDENTS PER 1,000 EXAMINED ON ADMISSION TO COLLEGE WHO WILL BE FOUND TO HAVE SIGNIFICANT PHYSICAL DEFECTS

Nature of Defect	Number of Students per 1,000
Nutritional defects:	
Underweight, 10 per cent or more	280
Overweight, 15 per cent or more	65
Uncorrected visual defects, 20/40 or more.. .	110
Dental caries (examination by dentist). .	700
Defects of nose and throat.	
Chronic nasal obstruction	200–300
Chronic tonsillitis	100–200
Defects in body mechanics:	
Spinal curvatures	150–200
Flat feet (second or third degree) . . .	40
Valvular heart disease	6–20
High blood pressure (systolic pressure permanently over 150 mm.)... . .	2–4
Evidence of tuberculosis and syphilis.	
Tuberculosis (adult type) . . .	4–8
Syphilis (as indicated by repeatedly positive Wassermann test).	3–4

* Reprinted by permission of the American Council on Education.

many studies, of the average number of common physical defects that may be discovered in a group of 1,000 students at the time of admission to college.

The authors who prepared this table summarized the health needs of college students as follows:

Students in college face specific types of health problems which require definite procedures for their solution. Many of these students have physical or emotional defects which require care by properly trained physicians. Some must learn how, where, and when to seek medical treatment for illness; others need medical counsel in matters of personal hygiene not immediately associated with illness. All students have problems resulting from health ignorances and they need the kind of instruction which discourages medical and health superstitions and leads to sound medical discrimination in matters of healthful living (66, p. 22).

Most colleges and universities provide some types of health service for students, and a large percentage provide instruction in hygiene. These opportunities should be understood and utilized by every student. Health examinations will serve no useful purpose unless they are followed up by attention to defects and the establishment of a regimen suited to personal resources. One or more conferences with your college physician or other health officer should be arranged to secure an interpretation of your examination and to plan your health program. If significant defects or handicaps are revealed—and practically everyone has some—secure advice as to what should be done about them. If the defect cannot be remedied, you then have a very common problem of wholesome adjustment to solve. One important outcome of a conference may be the assurance that your physical condition is satisfactory, since many students suffer from imagined diseases or abnormalities. Study and instruction in hygiene classes should also help you to become more intelligent about how your body and mind function and what constitutes for you a wholesome regimen of living. Most college students have worries, emotional conflicts, or personal problems that could be helpfully discussed with a physician, psychiatrist, or counselor. The wise student will use the available health services intelligently, since they

are seldom duplicated as to cost and efficiency in the years beyond college.

Some health factors should be checked upon regularly as a matter of routine. A few of these will be discussed briefly.

Weight and nutrition. Extreme underweight or overweight or rapid loss of weight should receive attention. Individual variations from standard norms of weight in relation to height and age are to be expected, so that one should not be concerned about slight deviations. Physical type is now recognized as important in weight determination. The tall slender type, the average type, and the short stocky type are classifications used in some weight tables today. Check your weight against the table of weight norms on page 500. Remember that these norms give only a general standard and that allowance should be made for slight variations due to individual peculiarities. Within reasonable limits a feeling of general well-being should be the criterion of what is a safe deviation from norms.

Weight is not always a correct indication of adequate nutrition. A deficiency or excess in certain kinds of food may not produce ill effects in a short period of time, but each individual should know the basic food requirements for good health and include them in his daily diet. A handbook on physical fitness for students in colleges and universities issued by the United States Office of Education contains the following recommendations (243, p 103):

1. Milk—at least 1 pint.

2. Tomatoes, oranges, grapefruit, raw cabbage, or salad greens—one or more servings.

3. Green or yellow vegetables—one or more servings.

4. Other vegetables or fruits—two or more servings.

5. Lean meat, poultry, fish, or sometimes dried beans, peas, or nuts—one or more servings.

6. Eggs—one a day, or at least three or four a week.

7. Cereals and bread—two or more servings of whole-grain, restored, or enriched products

8. Butter and vitamin-fortified margarine.

To this list should be added at least the traditional six glasses of water daily—a need that is often neglected in the routine of the college student.

References on nutrition are included in the chapter references for those who wish to study the problem further (25, 150, 192, 202). Research is very active in this area today and will doubtless reveal much new and valuable health information in the years ahead.

Hurry, anxiety, and worry should be avoided at mealtimes. Experiments with animals have shown that the digestive process stops when fear or anger is aroused. Regular meals under pleasant conditions and the avoidance of hasty snacks between meals at the lunch counter or soda fountain would mean increased efficiency for many students. The person who is much underweight might, however, benefit from a sweet drink or milk between meals. As in other matters of physical hygiene, an individual needs to study himself and discover from experience what is best for him.

Exercise and recreation. No daily program is well balanced without exercise and some form of recreation to give relaxation from study and other sedentary activities. Mere listless idling will not take the place of active exercise in fresh air and enjoyable recreation that engages wholehearted interest and attention.

World War II awakened us to the need for a national physical-fitness program. The draft revealed widespread deficiencies in health, yet we were fighting armies that had been rigidly trained through a long period of systematic planning. The results of this training had been pointed out by thoughtful observers of the Olympic games in 1932 and 1936. Our national committee on wartime physical fitness for colleges and universities outlined a program of activities for men and women that has great importance for healthful living in peacetime. This program includes activities aimed to develop: (1) the endurance essential for long-sustained effort; (2) strength; (3) muscular speed and agility of movement; (4) body control through mastery of good posture, the mechanics of movement, fundamental skills, and power of relaxation; and (5) the morale that results from a general feeling of well-being, physical courage, and the satisfaction of adequacy in skills approved by one's comrades. Somewhat different programs were outlined for men and for women. Adjustments are also necessary to meet varying individual needs. The strenuous

exercise of the athlete on a team may be a costly drain of energy for some, but each person should find a regular place on his schedule for activities that help to develop his optimum physical fitness and that interest, refresh, and relax him (243).

Sleep. Eight hours of sleep are generally considered a good average, though many profess to be able to maintain their efficiency with much less. With a little observation a person can soon discover the number that he requires. It has been assumed that the first hours are most restful because they are the hours of apparently deepest sleep when noise less easily arouses the sleeper. Some investigations have indicated that the body-rebuilding processes involving energy consumption occur during the first few hours of sleep but that the remainder of the sleeping period is probably beneficial because there is least wear and tear on the muscles then.

Insomnia is often a problem with college students. If you have difficulty sleeping, remember that sleeping habits are acquired like any others. Lying down relaxed should be an immediate stimulus to sleep. Students who study to late hours often find it difficult to relax and lay aside the problems upon which they have been working, the mind remaining as active after retiring as while studying and the body remaining tense. Various systems of instruction for relaxation have been developed by different authorities, and some of their books are included in the chapter references (125, 184). Anxiety about not sleeping is often a contributing factor in the continuance of the difficulty and in causing a sense of fatigue. Experiments have shown that the loss of one or even two nights' sleep need not seriously impair one's efficiency and that it can be made up in a fraction of the time lost (142). When sleep does not come, lying quietly in a relaxed condition affords rest and tends to induce it.

Fatigue and emotional factors. There is a prevailing idea that overwork on the part of students is a cause of the so-called nervous breakdown, but we now know that worry and emotional disturbances are more common causes and that work of itself is an almost negligible factor. Experiments involving the performance of difficult mental tasks continuously for many hours over a period of several days have revealed but little decrease in efficiency. One of these experiments showed that

poor records of achievement were made and a sense of fatigue was felt at a time in the day when the subject was accustomed to relax and take some form of recreation. This suggested that the cause may have been due more to a sense of discomfort because of lack of usual satisfactions than to real fatigue. James, the psychologist, has emphasized the need of working past the first sense of fatigue and getting one's "second wind" in mental as well as in physical exertion, thereby tapping deeper sources of energy than would otherwise be released (126). There is much value in this suggestion, though it should not be carried to the point where vital reserves are overdrawn and where a balanced program of activities is prevented. Long hours of work at times when it seems necessary should not result in serious fatigue if your general health is good and if you are getting a normal amount of rest and recreation.

In planning a time schedule, arrange for the alternation of different types of work, such as reading, writing, memorizing, problem solving, and handwork, so that weariness due to long stretches of one kind of activity can be avoided. The interspersing of reasonable work periods with time for rest and recreation is also a help. Two types of rest periods should be provided—brief 2- to 5-minute periods between, say, half-hour or hour periods of study, and longer periods for recreation at convenient times. If the time for relaxation between short periods of study is longer than a few minutes, efficiency may be sacrificed in getting back to work again. Spaced study periods are more effective than long unbroken periods of work. Some advise 20- to 30-minute periods interspersed with very brief periods of only a few minutes for resting the eyes and relaxing completely. Others find longer periods of work better. A little experimentation will soon show what length of work periods best suits one's individual needs. It is better to relax for a few minutes and then get back to intensive work than to work half-heartedly for a long period. A sense of tiredness, however, may be misleading, for measurements of achievement have shown that efficiency is often high when one feels apparent fatigue.

Emotional disturbances due to personal or social problems or maladjustments may deplete energy and reduce work effi-

ciency. Studies of college students have shown that family, social, or health difficulties; dread or dislike of subjects, disappointments or shock experiences, and feelings of insecurity or antagonism are frequently associated with poor achievement. The term "combat fatigue" is often applied to conditions that have been induced in some individuals by modern warfare as a result of prolonged physical, mental, and emotional strain. Persons differ in their ability to endure shock, strain, or tension and to adjust to new or difficult situations. The fact that more individuals were rejected or discharged from military service during World War II for mental or emotional maladjustments than for any other one cause may suggest the need for better and more widespread understanding of the principles of mental hygiene and of wholesome living. Consultation with a trained counselor or a psychiatrist is usually the most helpful procedure when emotional upsets persist or recur frequently

General sense of well-being and amount of energy. One of the best indexes of good health is the amount of energy that one can easily marshal and the vigor and enthusiasm with which one attacks both work and recreation. Persistent feelings of listlessness and depression and lack of zest for either work or recreation are danger signals that should be heeded. Worry or emotional disturbances are often contributing factors, though they may be interrelated with physical conditions. When a feeling of lassitude continues for any length of time and the causes cannot be determined, a physician should be consulted Unsuitable work, unfortunate living conditions, or unavoidable personal problems may be contributing factors when the energy supply is depleted, but if these can be ruled out and the condition persists, a careful checkup should be made.

History and biography are replete with illustrations of individuals who have achieved much under distressing health conditions, so that one need not feel that ill health or a physical ailment is in every case a seriously disabling factor. Many minor temporary ailments can be forgotten if one plunges into work with determination and interest Working continually under par is a strain, however, and one should attempt to

achieve conditions as ideal as possible.   A sense of vigorous well-being and abundant energy are sources not only of the highest efficiency in working but of joy and pleasure in living; and if one can combine these two conditions, he is sure to enjoy his work too, provided he is attempting suitable tasks.

HEALTH INVENTORY

How satisfactory is your health?

By checking in Column 2 or Column 3 indicate your status with regard to each factor or condition listed in Column 1. Add other items appropriate for you.

1 Factor or condition	2 Satis-factory	3 Needs improve-ment	1 Factor or condition	2 Satis-factory	3 Needs improve-ment
Nutrition			Attitude toward life		
Weight			Emotional adjust-ments		
Exercise			Demands of pro-gram on abilities		
Sleep			Friendships		
Energy			Status among fel-low students		
Vision			Relationships with family		
Hearing			Relationships with faculty		
Teeth			Recreation		
Nose and throat			Work for self-support		
Heart			(Add any others)		
General health					

Write out in your notebook plans for improving those conditions checked in Column 3 which may be impairing your personal efficiency. Consultation with your counselor or a college health officer may be helpful in discovering your health needs and in planning a program to care for them   Recheck at least once a week on improvements that you are making

SUGGESTED READINGS (see Selected References, pp 471-483): 17, 23; 26; 51; 60, 91; 125, 126, 138; 150; 184.

CONTROL OF ATTITUDES
AND ATTENTION

What effect do attitudes and purposes have upon learning?

A football team poised as a unit waiting for a signal or a student at his desk alert and ready with notes, a few books, and a definite plan to tackle a review for tomorrow's test— here we see energy organized for action. Now picture the opposing football team sprawled on the grass reluctant to play; then a student lolling in an easy chair, humming with the radio, idly flipping the pages of a textbook, and vaguely wondering what tomorrow's test will cover. No one has ever seen the second football team as described. But would it be difficult to find the second student on most campuses? We shall be kinder to the third student and picture him tense and scowling, his feet twisted about the legs of his chair, his head in his hands, anxiously plowing through meaningless jumbles of words in a textbook. His *intentions* are good, but he may be paving the way to failure. No one need deliberate as to which student will do best on the test!

Let us examine the probable attitudes and methods of the first student and compare them with those of the other two. He may or may not be deeply interested in the subject he is reviewing, but his notes at hand suggest that he has already covered assigned work systematically and knows something about it. He has a few books on his desk and will doubtless acquire new information from them as he reviews. If his notes are well organized, he can fit this into the outline and relate it to what he already knows. He will be likely to remember both the new and old facts better because of these associations and his thinking about their relation to the major topics or problems to be reviewed. The foregoing description tells us that he is alert and hence, we assume, eager to start the review. Therefore needless effort will not be expended in over-

coming resistance to his study task. He may be looking forward to some fun or relaxation when the work is finished, but he is not likely to daydream about it. We were also told that he had a definite plan of action, which would eliminate flipping pages aimlessly and droning over passages that are meaningless in an eleventh-hour cramming session. It is safe to say that he knows not only *what* he wants to do in reviewing but also *why* he wants to do it.

From this point on we might use our imagination to conjecture just what motives or purposes are back of his alert attitude and self-directed study plan. Perhaps this subject is essential for his vocational preparation; perhaps he just wants to make a good mark in the course; and then there is the possibility that he may have a real interest in this field of study that drives him on with little conscious effort.

Our glimpse of the second student revealed neither interest nor drive, unless it was to dawdle. The third student seemed to dread either the cramming or the test. Neither appeared to have systematic study habits. The first student did have well-established habits and attitudes with respect to his work and therefore did not have to fight himself to get under way. He may have trained as earnestly as members of the football team to acquire those habits.

Attitudes are habits. Attitudes become habits in much the same manner as do such skills as typewriting or playing a musical instrument. Assuming a happy mien is often of value to a person who feels habitually blue or depressed, since the very act of smiling helps one to throw off the feeling of depression. In the same manner a feeling of enthusiasm and anticipation of pleasure in study can be initiated by conscious effort. Unless the task attempted is entirely unsuited to a person's ability, the assumed attitude combined with good methods of work is quite certain to result in improved achievement, which in itself will give satisfaction and supplement the influence of the conscious attitudes to help fix them as habits.

Of course, native capacities should be considered in relation to study problems. If, for example, musical training is being attempted where talent is lacking, no amount of effort to develop correct attitudes and skill will produce the desired results, and it would be wiser to direct effort toward activities

for which there is sufficient native capacity. The same would hold true for mechanical skill or work requiring a high degree of intelligence. Much unhappiness and disappointment in life are the results of effort to succeed in lines of work for which one is natively unsuited. Granted the requisite ability, however, our attitudes and interests develop out of our experiences and are subject to modification. Probably most of our adult interests are more or less artifically developed as a result of environmental influences.

Many attempts have been made to discover how closely interest and ability or scholastic attainment in a particular subject field are related. Fryer, in evaluating investigations of the problem, concludes that "the interest expressions of the individual are not indicative of educational abilities to a high degree. Rather may it be said that they are suggestive of abilities" (93, p. 233).

Ways of changing attitudes. It may sometimes be difficult to find a sufficiently strong incentive in the immediate task of preparing an assignment if positive interest in the work has not yet been developed. Under such circumstances numerous motives can be summoned to aid the student until a real interest in the work itself can be established. The need may be recognized for mastery of a subject as a step toward an ultimate goal, such as graduation from college or success in a vocation. The desires to please one's parents, to secure a high scholarship standing, or to appear well before classmates are among the possible intermediate motives. Even the desire to complete the work in order to attend the theater might serve as an immediate urge. If an extraneous motive carries you far enough to acquire a considerable amount of knowledge about the subject, you are fairly sure to develop real interest. Ultimately the process itself must be satisfying, not merely the anticipation of rewards for engaging in it.

When a lack of interest in any subject persists, analyze the causes and try to eliminate them. If after a reasonable time the subject is still distasteful or uninteresting, it would usually be better to substitute something else if possible, since it is not likely that you will achieve results proportionate to your efforts with the undesirable attitude. There are probably few fields of study in which it would be impossible for one to

develop some real interest. Inadequate preparation or lack of ability may, of course, be such handicapping factors that it is more profitable to expend energy in work better suited to present needs and interests.

Effect of a time budget. A strong urge to do something else, such as to play tennis or golf, read an interesting novel, attend a movie, go for a ride with a friend, or plan for some future event, may interfere with the development of the necessary interest in study. If a carefully planned schedule provides ample time for these other activities, the disturbing stimuli can more easily be controlled by recalling that provision for pleasure and recreation at suitable times has been made.

Specific attitudes related to academic success. Among attitudes that have been shown to have a positive relationship to good scholastic attainment are the desire to excel, willingness to work, having a purpose, perseverance in spite of difficulties, and the tendency to appraise relative values in study thoughtfully.

The desire to achieve coupled with knowledge of progress has been shown to improve accomplishment. Success may act as a spur to raise a previous level of aspiration and lead to greater effort and still better achievement. If knowledge of success merely means that a desired goal has been reached, it may be less effective as an incentive than realization of failure or a poor level of performance that stimulates extra effort to regain self-esteem. Devices for measuring and recording improvement are helpful. The charting of gains on a learning curve as suggested earlier is one fairly simple and easy way of gauging progress. Tables for recording the amount of work accomplished in a given period and marks received are other devices. Any student can develop numerous devices for appraisal that are appropriate to his particular work and effective for him.

The dynamic effect of clear-cut purposes scarcely needs the support of objective data, but a few illustrations will be mentioned. A study of the factors related to academic achievement among students at Yale University resulted in the conclusion that the definiteness of life purpose of students was second only to potential ability as measured by mental tests in determining degree of academic success. The expectation

of entering upon a professional career was placed third in the list of incentives. Crawford, who conducted the study, says in his general interpretations, "If we . . . look back over all of the phases of this investigation, we find one common explanation for our various findings, that purpose, appreciable by the student, strongly influences his academic motivation and, thereby, his accomplishment" (57, pp. 81, 117). This study seemed to show that interest in the college curriculum was not generally sufficient to motivate the best achievement and that interest in extracurricular activities and in future life goals provided more incentives to study. A student can discover motivating purposes in almost any college course if he compares his immediate need and his plans for the future with possibilities within the field of study. The guidance of instructors should be helpful in discovering these relationships.

PERSONAL INVENTORY

Make a list of any attitudes that may interfere with your highest efficiency in study.

Try to discover the sources of these attitudes. Find suggestions in this chapter as to possible causes.

Prepare a list of suggestions for changing these attitudes.

Make a list of your attitudes favorable for study, and consider whether or not you are utilizing them in the best way

Review your lists of purposes related to college and also to life in general.

Consider which of these may be realized in any degree through studies in your present program, in projected programs for later terms.

How may concentration or control of attention be improved?

The nature of attention. Inability to concentrate is one of the most commonly reported study problems of college students and a frequent cause of considerable worry and concern. Many think of concentration as a faculty that they possess in limited degree or that they are fearful of losing. The ability to concentrate is not a special power or faculty; it is the result of the control and direction of attention. The mind is constantly attending to something while one is awake, and the ability to control attention is a matter of habit. Most of the time there is a multitude of stimuli both from without and from

within crowding for attention, and those related to our strongest interests and for which we are in a state of readiness are the ones likely to win out. If a student has an attitude of disinterest and boredom in a particular subject and is very eager about participation in a football game or attendance at a party, thoughts about these other activities are pretty sure to gain his attention. A feeling of uneasiness or distress due to inner conflicts of various sorts is also a source of distraction. Fear of failure, worry about personal affairs, dissatisfaction with living conditions, or concern about personal defects or limitations often rob one of the peace of mind necessary for effective concentration. A mind cleared for action is more necessary than a desk cleared of irrelevant and distracting materials

There is a constant flow of the attention from one stimulus to another, and we probably attend to a specific stimulus less than a second The possible duration of attention to one idea is probably about four seconds Unless the attention is supplied with new stimuli, it is inevitable that it will go woolgathering to secure the new food required. Rapid, intensive work keeps the attention alert and directed and thus aids concentration Listless droning over a task is a sure way to invite inattention and daydreaming.

Aids to concentration.

Interest and suitable work. The problem of choosing work suited to interests, abilities, and previous preparation is closely allied to the problem of concentration Work calling for special abilities, such as musical or artistic, or requiring a high degree of abstract intelligence, mechanical skill, or technical preparation had best not be attempted if the requisite qualifications are lacking. The world provides a sufficient variety of interesting and valuable work to give everyone a chance to do something for which he is suited. To attempt unsuitable work is to invite failure, loss of self-confidence, and bad habits of work. Sometimes an actual tryout affords the best or only means of discovering abilities, and college affords an opportunity for tryouts that may be less unpleasant if they yield unfavorable results than those attempted outside. Real interest, innate ability suited to the work, and self-confidence

growing out of satisfying achievement are essentials for concentration.

Rapid work. It is the rapidly flowing river that has well-defined banks and soonest reaches its goal, the sea or ocean. The slow-moving stream tends to spread out and form marshland. Likewise, the rapid worker keeps his attention focused on his work instead of allowing it to wander away into the marshland of his dreams and fancies. The fact that the mind attends to one thing for only a second of time is a partial explanation of the advantage of rapid work. The attention is carried along from one point to another without an opportunity to wander off into unprofitable bypaths, and the intensive effort required to work fast helps to marshal one's energies. Mere haste may result in wasted time; but persistent, well-directed effort can expedite work. Each person should discover his rate of work at which efficiency is at a maximum.

Definite purposes. These function as aids to concentration when related either to the immediate task or to more distant goals. Some of our more immediate purposes and goals should be attained without too great effort so that we can have the stimulus that comes with the satisfaction of having achieved. Breaking up a long assignment into shorter units to be mastered one by one is often helpful. One should see the relation of each of these units to the whole piece of work, the place of this section of work in the field of study, and the purposes of this subject in relation to life plans. Confidence in the ability to succeed growing out of previous achievements is one of the greatest aids to a learner.

An alert questioning attitude. An attempt to absorb information passively for the purpose of giving it back in examinations favors inattention and poor concentration. An alert questioning attitude, ever critical of what is read and ever searching for new meanings and new relationships, is an important aid to concentration. The richer the background of information about a subject, the easier it becomes to maintain this attitude. Interest is quite sure to accompany much information about a subject, and the presence of interest is the best insurance against inattention.

Interest in improvement. Competition with one's self to improve the quality and rate of achievement is another effective

aid. Ways of measuring improvement were suggested in the section on attitudes.*

Control of emotional disturbances or fatigue. The effect of unnecessary distractions in the environment has already been dealt with. More disturbing oftentimes are the distractions that result from inner conflicts and emotional disturbances. Unhappiness, worry, fear, or depression may prevent normal, natural interest and enthusiasm by sapping energy and distracting attention from work. This problem is much too complicated to be dealt with in detail here, but a few general suggestions will be made. It is usually helpful to face the disturbing situation quite frankly and attempt to understand it rather than try to repress thought and feeling about it by sheer force of will power. Often the facing of a difficulty will reveal easily remedied conditions or a situation that has been exaggerated in the imagination. When this is not the case, facing the matter will often help to lessen apprehension due to uncertainty and decrease emotional tension. If difficult or unpleasant circumstances cannot be remedied, intensive work on an interesting task is often one of the best antidotes. It may be wise to seek the aid of a counselor or a psychiatrist to find the sources of the difficulty. Emotional problems common to many college students will be considered in a later section.

Sleep, rest, or recreation may be more immediately helpful in a condition of fatigue than the effort to control the attention for work. If health factors and the need for rest can be ruled out as causes, the sense of fatigue may be overcome by following William James's suggestions for acquiring mental "second wind."

Improving Your Concentration

List in your notebook the courses or other activities in which you have difficulty in concentrating. Select from the list below those causes which you think may contribute to your difficulty in each of these courses or activities. Add any others not listed.

Some possible causes of poor concentration·

Disinterest and boredom.
Daydreaming about other things.

* See pp 130-134

Fear of failure.
External distractions.
Inner conflicts or emotional disturbances of some sort.
Worry about personal affairs.
Dissatisfaction with living conditions.
Concern about personal handicaps.
Lack of native ability to do this particular thing.
Lack of knowledge or skills to do this particular thing.
Working too slowly—the habit of dawdling.
Poor health.
Lack of definite purposes related to the activity.
Lack of curiosity tied up with the activity.
Lack of incentive to improve or achieve in this field.
Fatigue.
Add any others.

From the suggestions given below, select appropriate remedies for overcoming difficulties of concentration in each of the courses or activities in your list. Add other suggestions as to what you think might help.

Drop the course or activity.

Work more rapidly.

Budget time so carefully that you know that other activities are allotted sufficient time.

Find in real life adequate substitutes for daydreams to control the habit. (Specify in your notebook the substitute satisfactions determined upon.)

Eliminate or shut out external distractions. (Specify in your notebook the details of how this is to be done.)

Resolve inner conflicts in some manner, securing assistance from a counselor or other qualified person if necessary. (Specify details as the conflict is worked out.)

Ascertain by tests, counseling, and self-appraisal whether or not native ability is adequate for the task.

Measure progress regularly. (Outline method, and chart results.)

Work harder, and spend more time on the task, if it seems necessary to achieve success.

Face facts squarely about worrisome personal affairs or unsatisfactory living conditions. Decide which can be changed to advantage and how; plan definitely how and when to effect possible changes; resolutely adopt an attitude of acceptance of what cannot be changed at present. work out an

adjustment as satisfactory as possible (sometimes an apparent disadvantage can be turned to a real advantage) and put the matter out of mind as a source of worry and conflict.

Overcome personal handicaps if possible. Outline method if attempted, otherwise make the best of them, and balance them against your strong points.

Give special time and effort to increasing knowledge about the course or activity and to improving needed skills.

Outline and put into practice a definite program for improving health. (Specify in your notebook)

Lighten program

Ascertain causes of fatigue. Outline and put into practice a definite program for overcoming them.

Discover incentives to increase interest and purposeful effort. (Specify in your notebook if discovered)

Assume an attitude of anticipation of pleasure or profit in the activity in hopes that a real interest will develop.

Add other suggestions.

Suggested Readings (see Selected References, pp. 471-483) 23, 26, 133, pp. 109-123, 155-166, 135, pp 11-13; 180, pp 41-52.

CHAPTER XI

EFFECTIVE REMEMBERING

How can you improve your ability to remember?

A student once complained to the author that she was failing in her work because she "had no memory." During a brief conversation about a favorite hobby she gave a detailed account of activities that took place several years before. It was obvious that she had no difficulty in remembering events related to this interest. Friendly conferences helped to disclose a resistance to the meeting of certain requirements in her work and ineffective study methods as well. After she understood her emotional problems and practiced better methods of learning, she overcame her difficulty.

Many students fear, as did this young woman, that they lack "memory." What they do lack is understanding of the processes involved in the effective functioning of memory.

Remembering may be thought of as having four aspects: (1) receiving an impression, (2) retaining the impression, (3) recalling the impression, and (4) recognizing the recalled impression as the original impression. The following suggestions for improving the ability to remember are based upon results of much experimentation with these processes.

Decide what you wish to learn. When you begin to study, set definite goals as to what you expect to learn. Laboratory experiments show that in spite of much attention to materials a student may fail to memorize them if he does not know beforehand that they *are* to be memorized. Think about what you are to learn; then formulate questions to be asked. These steps preceding study are usually more helpful than rereading or summarizing what has already been read. Also try to visualize the conditions under which you may wish to recall and use the new learning, and duplicate these conditions as closely as possible in the original learning and in subsequent study.

Secure clear-cut, accurate, and vivid impressions of what you wish to remember. Hazy or incomplete memories are often the result of original impressions of the same vague nature. You cannot remember what you have never known. A vivid experience is much more likely to be retained than a weak one. Maintain an active, critical attitude in study—not a passive condition of spongelike absorption. However, anxious, keyed-up tension detracts attention from the matter in hand. Keen interest and concentration are essential to the gaining of clear-cut impressions. The suggestions in Chap. X for controlling interest and attention may be helpfully reviewed at this point and applied to this aspect of remembering.

You may be able to demonstrate to yourself the importance of interest by comparing two lists of subjects and skills (1) those in which you have least difficulty in learning and (2) those in which you encounter real trouble. With which list of subjects and skills can you identify the greater number of your interests and likes? What conclusions can you draw about possible relationships between attitudes and effective remembering?

Distinguish between what should be remembered and what forgotten. Do not clutter up your mind with details that are important only in acquiring an understanding of principles or significant meanings. Select those items to remember which contribute to your specific purposes and which you can use in your thinking. Thinking requires both facts and principles as its food, but an overburdened or disorganized memory may hinder clear thinking.

In studying botany, for example, many minute details regarding characteristics of different forms of plant life are observed, but one will not expect to remember all of them. Instead, this information will be used to arrive at an understanding of the significant characteristics of various types of plants. Later this understanding can be used in identifying and classifying particular specimens. In like manner the detailed descriptions of events and persons found in the study of history are important as a means of understanding trends of development or human relationships—not as ends in themselves.

After selecting what is to be remembered, decide what should be memorized verbatim and what merely understood to be used in relationship with other facts and ideas. Vocabulary and irregular forms in a foreign language, symbols and formulas in science and mathematics, and quotations in literature are illustrations of materials often calling for rote memorizing and hence for systematic drill. Even here, however, many of the devices helpful in logical memorizing can be used to advantage. For example, new words in a foreign language may be associated with English derivatives having similar meanings. Formulas in mathematics or science are remembered better if analyzed and applied in concrete problems. Quotations should be read through thoughtfully and understood before being memorized verbatim. The same principle applies to any materials that are to be learned in their entirety.

Organize facts or ideas into meaningful units of thought instead of trying to remember unrelated details. Experiments have shown that meaningful material can be memorized and retained much more easily than disconnected matter such as series of numbers, nonsense syllables, and lists of unrelated words.

It would be worth while to experiment for yourself. Read the series of nonsense syllables below three times with the idea of memorizing them in order. When you have finished, close the book, and see how many you can reproduce correctly and in the right order.

wok, pam, zut, bip, seg, ron, taz, vis, lub, mer, koj, yad

Now turn to page 203, and read the selection from Montaigne three times with the idea of memorizing it verbatim. Then close the book, and see how much of it you can reproduce. Compare the approximate percentage of the meaningful material reproduced accurately with the corresponding percentage for the nonsense syllables. Of course, familiar words in the selection used, as well as the sequence of ideas, will facilitate memorizing. Another experiment with lists of familiar words below may give a fairer test of the relative advantages of related and unrelated materials. Read List I three times with a view to memorizing the words in order, and then try to reproduce them.

List 1	List 2	List 3
book	boy	psychologists
field	apple	have
house	pencil	said
ride	garage	that
chair	train	we
afraid	grass	learn
garden	circus	to
paper	parents	skate
door	conduct	in
study	something	summer
beauty	experience	and
tree	block	to
box	necessity	swim
sailor	school	in
dinner	photograph	winter

Go over List 2 once, making up a story that includes the words in the order given. Test your recall of the words. Read over List 3 once, and again test your recall of the words in order. Compare the number of words that you recalled in correct order in each list.

Relationships are also aids in learning. One experiment that demonstrated this principle consisted of reading a series of sentences to students for the purpose of testing their recall of the words that followed the first words in sentences and of those which followed the last words in sentences. Second words in sentences were recalled much more easily than first words. The students tended to think of the words in sentences as belonging together but made no such connection between the last word of one sentence and the first word of the next one.

This principle applies equally well to items of information or ideas. Whenever possible, fit details to be remembered into a system of ideas, and ponder their relationships. Perhaps making an outline, chart, or diagram will help you here. The same method may be used with units of thought. Smaller units should be fitted into larger ones until whole systems of ideas are brought together and related. Any one idea is thus less easily lost. This process has been described as "tying facts or ideas into bundles." When many items become associated in logical relationships, a single cue may untie the whole bundle.

Much of the information that you acquire will shed new light on the innumerable questions and unsolved problems that are

sure to arise if you are interested in many things and actively curious about life. Alertness to note these relationships will help you to form logical associations within your growing fund of information. Practically every field of college study will have *some* bearing on all of the professional careers, on the art and science of homemaking, and on civic life, so that no student should find it impossible to fit most of the new facts and ideas into some of his major interests.

When logical associations do not seem to come readily, any arbitrary sort is better than none. Some individuals find it desirable to associate new impressions with vivid mental pictures that they call up or with sensations of sound or movement. You should observe your own tendencies in making associations and try to utilize those which prove most effective for you and are best suited to the particular field of study.

Order or arrangement as an important aid to memory is illustrated in the story of Simonides of Ceos, a Greek lyric poet, who is reported to have attended a large banquet where the roof fell, crushing many of the guests beyond recognition. Simonides identified them all because he remembered their positions at the table. This principle of memory was the basis of a system of mnemonics that he invented. Any memory system that emphasizes one approach is of very limited value.

Provide for suitably spaced study periods. Studying at suitably spaced intervals is usually more effective than one long period of consecutive study. For example, a few readings each day for several days should enable you to memorize a poem or a speech in less actual time than more repetitions per day for fewer days or many repetitions at one sitting. The curve of forgetting affords helpful suggestions for the spacing of practice periods. Figure 4 shows its general shape, which varies considerably, however, for different individuals and for different types of materials. The sharp drop in the beginning indicates that forgetting is very rapid in the first few hours after learning, but the slower descent later on shows that what is retained—after the initial loss—is forgotten much more slowly. Meaningful material well learned is retained longer and with much smaller loss than meaningless material. The rapid loss at the beginning of learning suggests the need for more repetitions at the start. Numerous repetitions during the first days

followed by fewer at longer intervals of time have been demonstrated to be most economical.

Spaced study fixes materials more permanently, a fact that has a significant bearing on methods of reviewing. A review should be systematic and cumulative for each course, not massed at the end of the semester in cramming for an examination. Several minutes of review at the beginning and end of each class or study period and a longer, more comprehensive review each week are desirable.* The kind of review depends on the subject, but in every case it should be selective and uncover weak points in order to avoid uneconomical overlearning of what is well understood.

If review has been consistent and cumulative, the preparation for tests and longer examinations will not involve a hasty and feverish cramming with easily forgotten details but will consist of a thoughtful survey in which

FIG. 4.—Curve of forgetting for content of a college lecture (*From Jones.*)

important topics or problems will be brought into bold relief and details fitted into their proper places. Although the exact nature of this survey will depend on both the subject and the probable type of examination, all reviews should involve the noting of new relationships and should result in an improved organization of materials.

Carefully plan and control your activities following study periods. Certain experimental evidence suggests that forgetting takes place less rapidly if the study period is followed by sleep. Figure 5 shows the percentage of material recalled by two subjects after various time intervals of sleep and waking.

* Harold E Jones has demonstrated the economy of immediate use of information acquired in a lecture Some of the students included in his experiment were forced to use their information by taking a test immediately after the class hour, and eight weeks later these students remembered twice as much as did those who had not used the information immediately.

Note that the retention was better after 4 hours of sleep than after 4 hours of being awake, but the advantage of sleep was not so great at 4 as at 8 hours. Such experiments suggest the desirability of study before a night's sleep. One explanation of this phenomenon is that experiences following study during a waking period have a retroactive effect on the previous
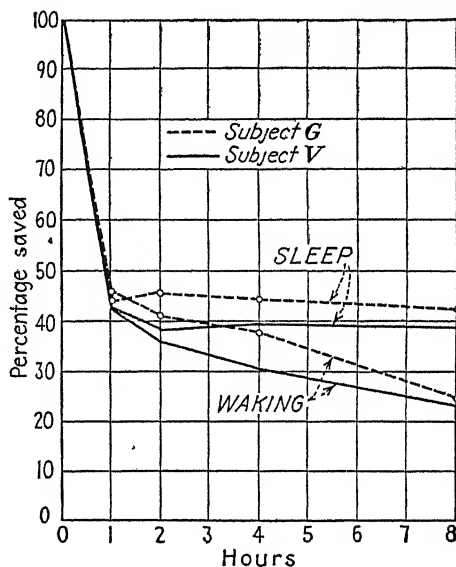
Fig 5.—Average percentage of studied material saved for each of two subjects "G" and "V" after the various time-intervals of sleep and of waking. (*Reprinted from van Ormer, Arch. Psychol., 1932, 21, No. 137, by permission of the publisher*)

learning and tend to inhibit or block its recall. Thus in the learning of important or difficult materials it is desirable to follow the study period with sleep. When this is impracticable, the next best course might be to follow the study period by a few minutes of light or easy reading.* If one study activity must succeed another immediately, the two activities should be as different as possible, since closely similar materials are likely to become confused and interfere with one another.

Whole learning is usually more effective than part learning. A lesson unit, a poem, or a speech of not too great length will

* *College Humor* was tried with good effect in some laboratory situations.

usually be more economically studied as a whole than broken up into smaller units. The principles of meaningful relationships apply here. If a speech, for example, is memorized in sections, the end of one section may tend to recall its beginning instead of the beginning of the next section. Unity and continuity of thought, if present in the selection, may also be interfered with in part learning.

Results for whole and part learning have varied in experiments with spaced and unspaced trials. In one experiment with the pencil tracing of a maze, whole learning with spaced trials was better than similar part learning, but part learning was better than either type of whole learning with unspaced trials. Many factors determine the most efficient method for each type of study. Breaking up a long and difficult assignment into parts gives increased confidence and a sense of achievement which spur one on. If the assignment is first surveyed in its entirety, the parts may be kept in meaningful relationship to the whole, thus avoiding the danger of unrelated units. The fact of early loss of first impressions is an argument for unspaced repetitions, but there seems to be a "physiological" factor that favors permanency with spaced learning. This seems to be true of both physical and mental activity.

Overlearning materials is a safeguard against their loss. Materials that are studied just often enough to recall and reproduce once are likely to be forgotten, at least partially, in a short time. It is more economical to review well beyond the first successful recall. When materials are used frequently in the study or solution of various problems, overlearning is accomplished in the most efficient way. The applications of mathematical formulas or rules of language and the testing of scientific hypotheses may serve as examples. Purpose and insight are brought into play under these circumstances. One should strive for this type of learning situation whenever possible, but the direct effort to overlearn is sometimes convenient and serviceable.

Recall, recognize, and use what you wish to remember. Reproduction of materials memorized is, of course, the goal of memory and is subject to training as is the first step in the memory process—gaining and fixing impressions. Any improvement in the first step helps recall, but actual practice in

recall is also necessary. It should be noted that reproduction is not merely recall but recall with recognition. We may recall something previously experienced but not recognize it as such and think that it is new or strange. Practice in recognizing whatever comes to mind in its original or previous associations is significant for improving memory. Seashore suggests the following rule of recognition: "Recognize the memory image as you would a friend" and adds as a corollary, " 'Cut' your friend and he will 'cut' you."

Reciting of learned material is one essential feature of effective study. When a unit of material has been read, it is a good plan to recite the important points, such as principles or rules in mathematics, vocabularies in a foreign language, or the main ideas in a social-science selection. Recitation need not be oral. The making of outlines is often helpful; also the answering of questions that were posited before the material was read or that developed out of the reading. The actual use of rules, formulas, new words, or ideas is more helpful than merely repeating them. There should always be a thoughtful consideration of any recalled materials that are above the rote-memory level, with continuous association and new applications in a variety of situations.

Examinations present situations where effective recall with recognition is needed. In preparing for examinations, practice the sort of recall that will be needed in the test itself. This can be done by formulating questions that are likely to be asked. Try to anticipate whether the questions will be of the essay, specific, or problem-solving type; also, whether they will stress chiefly memory or the use and application of principles, facts, or skills.

Always approach learning with confidence in your ability to remember. Fatigue, worry, or lack of confidence in ability to learn may interfere with efficiency. Fatigue or worry may need to be dealt with directly in terms of causes and indicated adjustments. Lack of self-confidence can often be overcome by intelligent planning of specific tasks to be mastered, beginning with simple and easy ones and gradually working up to the more difficult ones which usually seem easy when reached by this process. Interesting work planned with valued purposes

in mind affords recreation, release from worries, and a sense of satisfaction in achievement that is a basis for true self-confidence.

IMPROVING YOUR MEMORY

Make a list of your chief faults in study suggested by this discussion of the process of remembering.

Outline changes in your methods of study that should improve your memory, giving reasons for each change.

Choose several selections of approximately equal length and difficulty, and worthy of memorizing, to use in experimenting with spaced and unspaced and whole and part learning. Keep account of the number of repetitions required under the various conditions and the time consumed by each method, and compare results.

SUGGESTED READINGS (see Selected References, pp. 471-483): 13; 133, pp. 80-108; 135, 171, pp. 64-87, 103-114; 198.

USING THE LIBRARY

Prepared in collaboration with Winifred E. Skinner, Librarian, Pasadena Junior College.

What should one know about libraries?

Libraries are storehouses of the richest treasures of mankind. They represent the acme of civilization today. A survey of the evolution of books from the sun-baked bricks with their cuneiform writings of antiquity through the beautiful hand-copied manuscripts of medieval times down to the countless printed volumes housed in magnificent buildings in our own day must inspire the thoughtful person with awe and reverence for the human values that they represent.

Colleges had their beginnings when earnest aspirants to knowledge came to a fortunate person who possessed a precious roll or manuscript that could be read aloud. No need at that time for instruction in how to use a library! Compare this situation with your own today—access to a modern college library with thousands, perhaps hundreds of thousands, of books and other publications. These storehouses of the world's knowledge are complicated like that knowledge itself, and the uninitiated explorer can easily waste untold amounts of time. A college president once remarked that any student who knows how to use the library when he enters college will save three months of study time during a four-year course. The student today needs to know not only how to find his way about in a modern library but also how to choose what is of most value to him, since he can sample during his college days only a relatively small portion of what is there.*

* Several excellent guides to the use of libraries give more detailed and comprehensive information References to them are included at the end of this chapter, and they should be studied carefully by the student who wishes to become expert in using library facilities. The suggestions given

Suggestions for using the library.

Become familiar with the general arrangement of the library. In some colleges lectures or tours are arranged to acquaint entering students with the library plant and its regulations. Where this aid is not given, a student can make his own investigation. He should note the location of the card catalogue, the delivery or charging desk, reading rooms, the stacks, reference books and materials, indexes and guides, current magazines and newspapers, reserved books, and any special collections such as rare or unusual books; also department libraries for special fields of study such as law, medicine, engineering, education, psychology, general browsing corners, new books, etc. If the stacks are "closed," i.e., not accessible to students except by special permission, some of the needed information may have to be acquired indirectly from library authorities or instructors. A little initiative will enable one to become well informed about library facilities.

How Well Are You Acquainted with the Facilities of Your Library?

If no printed map or guide is available, draw in your notebook a rough sketch of the ground plan of the library rooms or building (one sketch for each floor, if more than one), or use a mimeographed or printed map of the layout of the library, if one is available. Locate on this chart the following facilities the card catalogue, the delivery or charging desk; reference books, indexes and guides; bound periodicals; current periodicals and newspapers, reserve books; reading rooms, the librarian's office, any special features, such as rare collections.

Inform yourself about library regulations. No two libraries have exactly the same regulations, since these depend on local conditions. The size of the book collection and the relative size of the student body, physical conditions of the library building itself, whether the college is a campus institution where the students live or many come from a distance—all these considerations determine the necessary restrictions on the use of books.

here are intended only as introductory guides and will prove helpful only as they are applied in actual library work.

If certain facts regarding library regulations are kept in mind, mutually helpful relationships between students and librarians can be maintained.

A library will have no unnecessary rules. No librarian desires to add to his burdens by imposing needless restrictions. Reasons for a certain rule may not be apparent to a student, but he can be assured that it was not established without consideration of all the conditions involved, including the fact that the principle of the greatest good to the greatest number must prevail.

Rules are established to protect students' rights as well as to protect books. It may seem a hardship to a student to be obliged to return a book on Monday at 9.00 A.M. when he has no classes until 10.00 A.M.; but on Tuesday morning when he has a free period for study at nine after an eight o'clock class, he blesses the rule that caused the other fellow to return a wanted book before that hour.

Fines are imposed largely to control habitual offenders. Relatively few students willfully or carelessly ignore rules. One "reminder" is usually sufficient to preclude further offenses. Repeated violations are confined to a small number of habitual offenders. Unpleasant consequences of the infractions of laws are needed in libraries as in society at large.

Ignorance of the law excuses no one. The motorist must know the law before he is licensed to drive a car, and the court holds him responsible thereafter. If there are mitigating circumstances, the judge (and the librarian) tempers justice with mercy; but they have their eyes open for "repeaters."

"Open" versus "closed" shelves. Open shelves permit a student to select by examination those books which seem best suited to his needs, instead of depending on the card catalogue. Smaller libraries can more easily maintain open shelves than the larger ones, but certain disadvantages of the system sometimes necessitate closing the shelves. At least two of these disadvantages are brought about by the students themselves. The first is the loss of books. It is easier for the selfish, nonsocial person to carry away a book without having it charged —in other words, to steal it—when he has access to the shelves.

A second disadvantage is the task of keeping the books in order. Carelessness in replacing books that have been taken from the shelves results in temporary loss, requiring much time of the staff in reshelving, or "reading," the stacks. Where the shelves are open, the student body may have the power to keep them open by good citizenship, good sportsmanship, and care.

WHAT LIBRARY REGULATIONS SHOULD YOU OBSERVE?

List in your notebook, if not available in printed form, the regulations of your library for the use of circulating books, reserve books, reference materials, periodicals, open shelves, and stacks. Add any other significant regulations.

Can you locate materials in your library? If your library maintains open shelves, block in the stacks on your diagram, and indicate on each the range of classification numbers or symbols of books in each stack. Do this while actually in the stacks so that you will have accurate data.

Select one of your courses that requires considerable reference reading, and draw a line around the stacks in which most of the books related to your reading in this field are located.*

Learn how the members of the library staff can help you. The chief purpose of libraries in earlier times was the collection and preservation of books. Little provision was made for their use. Today the emphasis is upon wide circulation and use of books, and librarians consider their chief duty to be that of assisting students to use the library facilities most effectively. In large libraries with several members on a staff, each one generally specializes in a certain field of service. A reference librarian, for example, will assist you in locating sources of information about special topics for which the use of the card catalogue is inadequate. With the multiplicity of special reports in modern classes, she is usually a very busy person, so each student should become as independent as possible in find-

* Remember that these lines will not enclose all of the books on this subject and that you must use the catalogue to locate materials for extensive study.

ing needed materials. In asking for assistance, the questions must be specific. The student who asks the librarian for materials on furniture when he wishes information about furniture of a certain period may finally secure what he desires, but he may have wasted time for himself and the librarian and may have failed to exhaust the resources of the library on his problem.

Most college libraries employ student assistants to aid the staff of trained librarians in charging, discharging, and shelving books; mending and preparing new books for circulation; checking and filing incoming periodicals. Since they usually work but a few hours each week, their knowledge of the library as a whole is limited. Therefore, it is wise not to consult the student assistant for reference help but to go directly to a librarian.*

Learn how the books are classified and arranged in the library. In old libraries books were often arranged according to size, color, or age, but with the vast accumulation of knowledge today it is necessary to have an arrangement based on a system of logic. The modern basis for grouping books is by subject   One of two systems for subject grouping is generally used in libraries · the Library of Congress Classification or the Dewey Decimal Classification. The former is coming to be used more widely in the larger libraries, but the latter is more common in the smaller college and public libraries.

According to the Dewey Decimal Classification system † the field of knowledge is divided into nine main classes, and most books are classified within one of these fields. A tenth class designated with an 0 is added for encyclopedias and other general publications. These ten classes with their number symbols are as follows:

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* Assistant work is a valuable experience to many students. It gives one a facility in the handling and use of books that might not otherwise be acquired; it acquaints one with another point of view of the library. The student who is ambitious to train for librarianship after the completion of his college course will be wise to obtain such a position for a year or two if possible   The experience thus gained will be valuable to him in library school, giving him an introduction to terms, methods, and reasons for library procedure as well as affording a means of self-support.

† Devised by Melvil Dewey.

000–009 General works
100–199 Philosophy
200–299 Religion
300–399 Sociology
400–499 Philology
500–599 Science
600–699 Useful arts
700–799 Fine arts
800–899 Literature
900–999 History

Each division is subdivided into ten groups, and each of the subdivisions into ten more, etc., so that the system with the use of decimals is capable of indefinite expansion and of minute discrimination between specific subject fields.   For example, 973.3 is the classification number in this system for books dealing with the Revolution in the history of the United States.   The classification number for California history is 979.4; history of the southern counties in California has the number 979.49; and 979.494 is the classification number for history of Los Angeles.

The Library of Congress system, devised to meet the needs of the Library of Congress at Washington, has twenty-six main groups, each designated by a letter of the alphabet followed by Arabic figures to denote subdivision   For example, the capital letters *E* and *F* are used to classify books that according to the Dewey Decimal system would be classified somewhere between 973 and 979 as indicated above.   *E* designates books or materials classified as "United States, General," and *F* those classified as "United States, Local."   *E* 208 is the number in this system for general histories of the Revolution which would be classified under 973.3 in the Dewey Decimal system.

Call numbers.   When a book is classified in a library according to the particular system used, it is given a "call number" which usually consists of two parts—on the first line the classification number or symbols, and on the second line the author number.   This second designation usually begins with a capital letter which is the initial of the author's surname, followed by a combination of numbers and possibly letters which are assigned to the book, varying in different libraries.   This second part of the call number distinguishes a book from all others in the classification and determines its exact location on the

shelves of the stacks. Some librarians omit the author numbers, filing the books alphabetically by author within the classification. When author numbers are indicated on the catalogue cards, they should be used in calling or searching for a book.

Within each subdivision the arrangement of books on the shelves is generally alphabetical by authors, except for biography and criticism, in which the alphabetical arrangement is by names of persons about whom the books are written. Fiction is usually shelved alphabetically by author, and each author's books are arranged alphabetically by title. If the stacks are "open," or accessible to you, a little observation will soon enable you to find your way about. Modifications of any general system should be noted to avoid needless searching. If a book must be secured from the charging or loan desk, it is essential to have the complete call number on the slip requesting it.*

Learn how to use the card catalogue. When a person goes to a library for a book, one of three questions is to be answered· Does the library have a book by a certain author? Is there in the library a book of a given title? What materials does the library have on a certain subject? These questions are answered by the catalogue, which does for a library what an index does for a book. It is an alphabetical listing on cards of the books and other materials in the library.

The catalogue is housed in a cabinet consisting of a series of drawers or trays. On the outside are the guides to the alphabeting within. Within each tray protruding cards give further clues to the alphabetizing.

The catalogue itself consists of cards arranged alphabetically by the top line, with author cards, title cards, and subject cards all interfiled. This arrangement defines the catalogue as a "dictionary catalogue," indicating that all the cards are arranged in one alphabet.† Locating material in a catalogue is perplexing unless you understand not only the general rules

* When a particular book is called for frequently, list its author, title, and call number in a notebook in order to avoid looking it up in the card catalogue each time

† Most college libraries use cards purchased from the Library of Congress, thus saving a great amount of time, since it is necessary merely to type the call number of the book and the heading upon the printed card.

of filing but also specific practices in local libraries. One difficulty frequently encountered is the complicated subdividing of headings An example may be found in any catalogue under the heading United States. A few suggestions by the librarian may prevent needless waste of time.*

Most books have at least three cards in the catalogue placed alphabetically according to the heading, so that they can be located in different ways. The call number is the same on each card and is placed in the upper left-hand corner.

Author card. The author card has for a heading the name of the author and is filed under his surname.†

804	**Becker, *Mrs.* May (Lamberton) 1873–**
B 4	Books as windows, by May Lamberton Becker . . New York, Frederick A. Stokes company, 1929.

xii p , 1 l , 289 p   19½^{cm}.

"For reference" at end of each chapter except chapter xiv.

1 Books and reading   i Title

29—22221

Library of Congress   Z1003.B395

—— ——Copy 2

Copyright A 15088   [30p5]

Title card. The title card has the title of the book as a heading and is filed under the first word of the title that is not an article such as "the" (see p. 158 for title card)

Subject card. The subject card has for a heading (generally typed in red) a word or phrase indicating what the book is about. Subject cards aid in locating a book when the author's

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* Many of us who have thumbed impatiently through the MacDonalds in a telephone book or directory to find Arthur McDonald, locating it finally several pages ahead under the Mcs, could wish that everyone would adopt the comparatively simple rule of filing all the Macs and Mcs. as if they were spelled Mac

† For complete interpretation of information given on a catalogue card see Brown, Zaidee, *The Library Key An Aid in Using Books and Libraries,* 6th ed , rev , New York, The H W. Wilson Company, 1915

The great plains *

978   Webb, Walter Prescott.
W 2   The great plains, by Walter Prescott Webb . [Bos-
        ton] Ginn and company [°1931]

        xv, 345, [2], 346–525 p. illus , plates, ports , double maps, diagrs.
        22^{cm}.

        Bibliography at end of each chapter except the 1st.

        1. The West—Hist. 2. Mississippi valley—Hist.   I. Title.
                                                            31—20202

        Library of Congress   F591.W35
        —— ———Copy 2.
        Copyright A 39811   [31p5]   978

* Filed under g (great plains).

Books and reading.

801   Quiller-Couch, *Sir* Arthur Thomas, 1863–
Q 2   On the art of reading, by Sir Arthur Quiller-Couch
            ... New York and London, G. P. Putnam's sons, 1920.
        ix, 250 p   23½^{cm}.

        CONTENTS —Introductory —Apprehension versus comprehension.—
        Children's reading —On reading for examinations —On a school of
        English —The value of Greek and Latin in English literature —On
        reading the Bible —On selection.—On the use of masterpieces.

        1. Books and reading. I. Title.
                                            20–16869 Revised

        Library of Congress   PR99 Q55
        —— ———Copy 2
        Copyright A 576556   [r21i3]

name and the exact title are not known or in determining what books in a particular subject field are in the library.

Cross-reference cards. These cards are guides to the headings in the catalogue under which material on a subject is listed   In other words, they refer one to other cards in the catalogue   Below are illustrations of the kind of information entered on these cards.

<div align="center">

Decorative design
see
Design Decorative

Design, Decorative
see also
Art
Decoration and ornament
Drawing
Lettering
Stencil work
Textile design

</div>

Analytic cards   An analytic card is a separate entry, under author, subject, or title, for a portion of a book.   These are often used for plays when there are several in one volume, for biographies where there are several in the same book, or for a section of a book dealing with a specific subject.

Panama canal

327 73   Powers, H. H.

P 1   The aftermath of Panama   (In his America among the nations.   1921.   p. 122–140)

The three types of cards most frequently used are author, title, and subject cards, but the other types prove very helpful

in locating obscure materials that might be overlooked in preparing a bibliography on a special topic.

In using a catalogue you should know that cards for books *by* an author are placed in front of cards for books *about* him; associations and governments have author cards for works published under their names; there are also cards for joint authors, editors, compilers, and translators of books; all the books in a series (owned by a library) are listed under the title of the series. Subject cards for biography and criticism have as the subject heading the name of the person written about; magazines and periodicals have title cards indicating the numbers that the library possesses and any gaps in the files; periodicals that relate to specific fields also have subject cards.

Learn how to use special indexes and guides. "Somewhere in print . . . " One principle of library usage should always be kept in mind. No matter what your interest, no matter what information you seek, there is something in print somewhere in the world pertaining to that subject or interest. It may not be in your college or city library, but your librarian will be glad to help you to locate it.

Special indexes and guides are means of locating certain types of materials, and a student should learn to use them.

Periodical indexes. No indexes are used more than those which guide the reader to periodical material dealing with the vast field of contemporary thought and activity. The *Readers' Guide to Periodical Literature* is the most comprehensive for articles on present-day issues. Poole's *Index to Periodical Literature*, published from 1882 through 1906, is often confused by students with the *Readers' Guide to Periodical Literature* which has been published since 1900. Both are guides to current magazine materials in the periods covered by their respective dates.

In the *Readers' Guide to Periodical Literature* materials are indexed by author, subject, and sometimes title. Uniform subject headings are used, and there are numerous cross references. The reference to an article includes the title; author's name, if known; volume; inclusive page reference; and exact date. In the front of each volume or number of the index is an alphabetical list of the periodicals indexed, together with the abbreviations used for each; also a list of other abbreviations,

such as "il" for illustration, "por" for portrait, indicating kinds of material to be found in an article. The guide is published in pamphlet form each month, and these monthly numbers are cumulated at intervals into larger pamphlets and finally into volumes covering several years. It is particularly valuable because of the comprehensive indexing system and the promptness with which the indexing of current materials is made available. By thumbing over a number of volumes of the guide, to note the arrangement of main headings and subheadings and to interpret the abbreviations in a few references, you can very quickly develop facility in its use.

There are a number of special magazine indexes for technical or other specific fields   The H. W. Wilson Company publishes a pamphlet,* distributed free to libraries, that explains each index published by that company. These are the most used indexes, though there are others for certain subjects and periods.

Newspaper indexes.   The *New York Times Index* is useful in determining exact dates of recent events and is therefore a guide to local newspapers as well as to material in the *New York Times.*

Indexes and guides to books.   The *United States Catalog* is a comprehensive listing of books printed in English. In it books are arranged under author, title, and subject, with publisher and price given. The *Cumulative Book Index,* which is published periodically, keeps the *United States Catalog* up to date. The *Book Review Digest* includes brief analyses of and excerpts from reviews of books of general interest and gives references to reviews published about each book. The reviewer's estimate of the book is indicated by a + for favorable and a — for unfavorable reviews. When both + and — are used, the first one indicates the major trend of the review.

Other indexes.†   For locating material in books, numerous indexes are published, *i.e*, Granger's *Index to Poetry and Recitations,* with the *Supplement,* which locates poetry in collections and anthologies; *Index to Plays,* and *Index to Short*

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* Cataloguing and Indexing Service, advanced course for college.

† Indexes of the type referred to in this paragraph are usually grouped in the reference collection   They are included in this section because the emphasis here is upon methods and means for locating materials.

Stories. Title pages, introductions, and tables of contents of such indexes should be scanned to grasp the limitations and scheme of organization in order to use them quickly and thoroughly.

Do You Know How to Use Periodical Indexes?

List in your notebook the periodical idexes available in your library.

Choose a current topic in which you are interested. Locate in the *Readers' Guide to Periodical Literature* a reference to a magazine article on this topic. Copy the entry in your notebook exactly as it is given there. Recopy this entry with all abbreviations written out in full.

Read this magazine article, and write a brief digest of it under the entry already in your notebook. Have your summary criticized by your instructor, or criticize it yourself as to good note taking.

Learn how to use reference books. One rich source of information is so obvious that it is sometimes overlooked, and that is the reference collection. The general nature of such books often precludes the possibility of catalogue assistance; and unless the librarian is consulted, the collection may be forgotten. Reference books, as a rule, do not contain enlivening material; they are too factual, too compressed. Most of them are not meant for continuous reading, but their value lies in the opportunity for the student to find concise facts.

Nature and scope of reference books. Besides the general reference books such as the *Encyclopaedia Britannica,* there are many encyclopedias of more limited scope and dictionaries of special subjects. Examples are Thorpe's *Dictionary of Applied Chemistry;* Grove's *Dictionary of Music and Musicians;* Warner's *Library of the World's Best Literature;* Larned's *History for Ready Reference* . . . ; or books like the *Dickens' Dictionary* containing an alphabetical listing of all the characters in Dickens' works with a brief characterization of each.

The list of reference books for a student to keep in mind may be very brief if he understands the scope and possibilities of the reference collection and certain principles to apply in the use of those works.

Reference books to be remembered. There are a few reference books for which almost any college student has frequent

use and with which he may have been more or less familiar since his elementary-school days. This earlier, more superficial usage may cause him to minimize their importance and may result in the neglect of materials that would be an excellent introduction to more extended study.

DICTIONARIES. The reference book of first importance is the unabridged dictionary. The college student will often find in the appended material and in the obsolete-word list "below the line" in the Webster's unabridged dictionary additional resources to those which he used earlier in his school life. However well he may know Webster's *The New International Dictionary*, *The New Standard Dictionary*, or *The Century Dictionary and Cyclopedia*, it is more than probable that he will not have been introduced to the *Oxford English Dictionary*, called variously the *New English* or the *Murray Dictionary*. This will be found in any of the larger college libraries; it may be too expensive for some of the newer, smaller ones.

The first volume of this most scholarly of all English dictionaries was published in 1888 and includes the *A*'s. The last volume of the twenty, including the *Z*'s, was not published until 1928. The dictionary gives comprehensive historical information about every word in the English language not obsolete before the year A D 1150. Illustrations of the variations in meaning are given also, and there is much encyclopedic information. The word "automobile" will not be found in the main alphabet of the *Oxford English Dictionary*, since the *A* volume was published long before the invention of that vehicle. This limitation of date must be kept in mind in order to avoid disappointment at not finding the newer words, which do appear, however, in the supplementary volume of 1933.

ENCYCLOPEDIAS. At least one or two of the general encyclopedias should be known by the college student. The *New International Encyclopedia* with its yearbooks, bringing it up to date, and the *Encyclopaedia Britannica* will undoubtedly be found in the college library. If possible, it is desirable to compare the eleventh or the thirteenth edition of the *Britannica* with the latest, or the fourteenth. This latest edition has been popularized and the subjects have been divided until the index, which was indispensable in the older editions, is now relatively

unimportant. Libraries that owned an older edition and have bought the latest one are retaining both, since many of the more scholarly treatises in older editions have been eliminated in the fourteenth. The *Americana* is the most recently revised of the encyclopedias.

BIOGRAPHICAL MATERIAL. Brief biographical information is sought frequently in college study, and it will save much time if a few sources are kept in mind. The great *Dictionary of National Biography* is most important for information on noteworthy British subjects no longer living; and *Who's Who*, published annually, gives very brief biographical facts about living English people of note. This *Who's Who* is not to be confused with *Who's Who in America*, a similar volume published biennially about living people of the United States. The *Dictionary of American Biography* supplies a work for the United States comparable to the *Dictionary of National Biography*. Other sources of biographies are *Twentieth Century Authors: A Biographical Dictionary of Modern Literature*, edited by Stanley Kunitz and Howard Haycraft, and *Current Biography· Who's News and Why*, including annual volumes from 1940 to date. *Who Was Who in America* is a companion volume to *Who's Who in America* with biographies of those no longer living. A long series of *Who's Who* in various fields and countries is to be found in larger libraries, *e.g., Who's Who in China* or *Who's Who on the Stage*.

STATISTICAL REFERENCES. For brief facts and statistics of the present consult the *World's Almanac*, the *Statistical Abstract of the United States*, and yearbooks such as *The American Yearbook and the Statesman's Yearbook* (British).

PAMPHLETS AND GOVERNMENT DOCUMENTS. Pamphlets or bulletins issued by societies or organizations and various types of government documents contain much valuable information and are often interesting and attractive to read. They should not be overlooked as source materials in suitable fields.

How to use reference books. A technique is required for the speedy and effective use of reference books, but it becomes almost automatic with thoughtful, well-directed practice. A few hints to be applied with discretion to a particular reference work will call to the attention of the thoughtful student certain principles to observe in using reference books in general.

ASCERTAIN THE DEPENDABILITY OF THE MATERIALS. "Facts," so-called, are of no value unless they are accurate; and statistics that are outdated are most deceptive, for figures may be great liars. So, first of all, the sources of information and the dates of a reference work should be ascertained. Have the authors or the editors sufficient scholarship to justify their attempt to write or compile the work? Look up their records and backgrounds to judge this if necessary. Is the copyright date recent enough to warrant dependence on the desired information? Is there a revision or a supplementary volume or a yearbook to bring the work up to date? Scan the introduction or preface or both for indications of any bias of those responsible for the work, particularly if it happens to deal with a partisan or controversial subject such as politics or religion.

The publisher sometimes has a bearing on the reliability or authenticity of a reference book. Some publishers specialize on certain types of books, and it is well for the reader to form the habit of noting the publisher of each book that he reads. At first this knowledge will mean nothing; after a time, however, certain names will become known as reliable publishers of books in specific fields.

NOTE THE SCOPE AND ARRANGEMENT OF MATERIALS. It is not worth while to overtax your memory with the exact number of volumes of a reference set, although it is convenient to know approximately whether there are six or twenty-six volumes. Far more important is a clear understanding of the arrangement of the material, which may be alphabetical under minute headings with a system of cross references, or it may be grouped under comprehensive headings with an index necessary for detailed subjects. A careful reading of the title page and the introductory statements usually gives not only an understanding of the scope and limitations of the work but also the scheme of arrangement and use.*

* It may not be amiss to suggest that care should be exercised before purchasing reference books. Confer with a competent librarian before signing on the dotted line. Sometimes the sets of books that look attractive in an agent's prospectus sink into disrepute under the searching scrutiny of the experienced librarian.

Do You Know How to Use Reference Books?

In your notebook prepare a chart similar to the one below. Enter the names of four reference books (to be suggested by your instructor) in the blank column headings. For each reference book fill in the information requested in Column 1.

1 Information about reference books	Enter names of four reference books			
	2	3	4	5
1. General scope and specialties				
2. Editor or editors				
3. Arrangement of materials 　Alphabetical by word 　Alphabetical by subject 　Other type of arrangement				
4. Are there cross references?				
5 Are there bibliographies?				
6 Is there an index?				
7. Is there a table of contents?				
8. Date of publication (If not given, use abbreviation n d)				
9. Copyright date				
10. Publisher				
11. First or revised edition				
12 Number of volumes				
13. Evidences of reliability 　(Specify briefly)				
14. Principal limitations 　(Specify briefly)				

Practice using the library facilities. For routine study the important considerations are the location of reserved books for particular courses and the most effective periods in your own time schedule for securing books that may be in great demand. The location of the quietest places to study is another important factor not always under the control of the student.

For the preparation of special reports and papers it is often necessary to utilize most of the facilities described above: the card catalogue, indexes and guides, reference works, and books and other materials in the stacks. The preparation of a bibliography is usually the first step. If the topic is new, you can start with subject cards in the card catalogue to secure first references; or another desirable start might be the rapid reading of a few articles in reference works to secure general surveys and bibliographical suggestions usually given in encyclopedias and other general reference works. If the topic relates to current affairs, an index or guide to periodicals might give the best initial suggestions. For an obscure topic the reference librarian should probably be consulted.

Bibliographical notes are usually most convenient if placed on cards as suggested in the section on note taking * Call numbers entered on these cards when references are located in the card catalogue will save much time when the books are needed for use. When the reading begins, notes can be entered on these same cards, if large enough, and carried over to additional ones with the same reference heading. It is a good plan to do some initial reading in books or periodicals before the bibliography is completed, as valuable references are often found in footnotes or in chapter bibliographies.

A selected working bibliography should contain the most authoritative and usually the most recent works relating to the topic. Various clues such as copyright dates and comments in prepared bibliographies as well as personal judgment will aid in making the selections. If access to the stacks is permitted, much time can be saved in examining many books before selecting those for careful study.

Your own organization of the problem will usually develop

* See p 199.

as reading and thinking progress, and cards can be sorted and arranged to fit into this organization when the final step of writing the report is reached.*

Become acquainted with the best newspapers and periodicals, and form the habit of using them regularly. Many college students become so engrossed in their courses and college activities that they lose contact with significant present-day events, developments, and thought as expressed in current periodicals. A college library is usually well stocked with these periodicals and offers an excellent opportunity for establishing valuable habits of reading the best newspapers, general magazines, and special periodicals in economic, political, social, scientific, literary, and artistic fields. Time saved each day or each week for such reading will yield rich returns in broadened interests and outlook A librarian can give helpful suggestions about such reading, but a considerable amount of browsing will reveal mines of choice reading and will help to develop ability in choosing what is most worth while to read.

Discover and utilize special or unusual library facilities. Designed especially for encouraging cultural, recreational, or guidance activities of students, libraries often have features such as browsing rooms or corners, shelves of new books, collections of books and materials on occupations or art, or other special collections. Much personal enjoyment and gain can result from noting and utilizing these facilities, which are often "opportunities of a lifetime"—though not always recognized as such.

How Well Can You Locate Materials in Your Library?

List in your notebook after numbers corresponding to those of the items on the next page what you would consider to be the best source for each item If several sources are equally good, list the one that is most quickly and easily available.

* See pp. 235-240 for a fuller discussion of the term report.

1 Item of information	2 Best source
1. The date of publication of a book belonging to your library but not available	
2. A very brief summary of the life of the governor of your state	
3. A short biography of Chaucer in some source other than a general encyclopedia	
4. A short biographical sketch of Washington Irving in some source other than a general encyclopedia	
5. A comprehensive list of books in print in the United States on the subject of football	
6. A summary of some criticisms of a recent book of general interest	
7 A complete history of the word "student"	
8. Statistics about exports from the United States in 1944	
9. The meaning of a word that has only recently come into general use	
10. The meaning of an obsolete word	
11. How many books does your library have by Charles A. Beard?	
12. In how many books in your library should you find materials on patents?	
13. Does your library have *The Twelve-pound Look?* In how many different books in your library can you find this play?	

SUGGESTED READINGS * (see Selected References, pp. 471-483): 37; 162; 197; 239.

* Each library has individual practices that may differ from those recommended in a particular manual. Care should be taken to ascertain any divergence.

EFFECTIVE SILENT READING

How valuable is reading skill?

Skill in silent reading is one of the most important tools of the college student, since every field of study involves the securing of facts and ideas from the printed page. It has been estimated that fully 90 per cent of college study is of this type. Low reading ability has frequently been found to be an important cause of poor scholarship or academic failure.

Reading skill is also of fundamental importance for practical efficiency in living. Arthur I. Gates has estimated that if every literate American over fifteen years of age who spends two hours or more a day in reading could be given effective training for one month in improving his reading skill, the saving in time required to do the nation's workaday reading, valued at fifty cents an hour, would amount to more than five billion dollars a year.*

How well do you read?

Surveys of the reading ability of college students have shown wide variations, ranging from elementary-school levels up to a very high degree of skill. Tests of Harvard freshmen have shown reading speeds ranging from below 295 words to over 895 words per minute. Some were able to read three times as fast as others, and their comprehension varied quite as markedly as their reading speed. Many of these Harvard freshmen were able to double their reading speeds without lowering their comprehension after thirteen or fourteen hours of training in reading techniques.† Similar results have been reported from many other colleges and universities. Robert

* In *Psychology at Work,* P S Achilles (editor), New York, McGraw-Hill Book Company, Inc , 1932, p. 46.

† Bond, E A., "The Yale-Harvard Freshman Speed-reading Experiment," *School and Society,* 54 107-111, Aug 16, 1941.

M. Bear of Dartmouth College reports that year after year their reading classes start off at an average of around 230 words per minute and finish up a few weeks later at around 500 words per minute (145). William F. Book, who worked for years with students at Indiana University, asserts that reading speed may be increased from 50 to 100 per cent with a moderate amount of practice if attention is directed sharply enough toward this particular point (27).

How may reading ability be improved?

Improvement in reading ability depends in general upon two things: (1) the analysis of specific difficulties and regular remedial practice suited to overcome these difficulties and (2) persistent effort to read more efficiently.

Efficiency in reading involves both speed and comprehension and each of these aspects is affected by the nature of the reading material and the habits and mental processes of the reader. It is quite as necessary to use effective methods in reading practice as to use correct techniques in tennis or golf. Motion pictures of tennis and golf players, in which the action is slowed down to permit a careful scrutiny of the players' techniques, have been of help in analyzing many of the factors that enter into skillful playing. The reading process is so complicated that not many of the steps can be visualized in this direct manner. We shall attempt, however, a progressive word picture of the process in order to analyze some of the steps involved and then consider means of working toward improvement. You may be able to locate your own difficulties as you read and to work out a remedial program with your instructor or counselor.

What factors are involved in effective silent reading?

Silent reading involves the observing of certain symbols and the interpreting of them in terms of the meanings for which they stand. It involves the visual mechanism and a complicated series of sensory and motor coordinations and of mental processes. We shall consider several factors independently before dealing with the reading process as a whole.

✓ Vision. Since the visual mechanism is a connecting link between the printed page and the mind of the reader, defects

in this delicately adjusted mechanism can have a significant effect upon the reading process. For the close work of reading the printed page the human eye has been used for only a few hundred years and probably is not yet well adapted to the strain placed upon it by the large amount of such work demanded by living today. Primitive man required eyes suited chiefly for long-distance seeing, which calls for only a small fraction of the amount of adaptation and expenditure of energy demanded by reading. When a defect of any sort is added to this general difficulty of adjustment in the functions of the eye, the result may be marked impairment of efficiency in reading.

No human eye is completely perfect, but adjustments to slight deviations from the normal can usually be made without serious strain. Because of the adaptive power of the muscles of the eye even serious defects may not always be discovered readily. Continuous use of the eyes for reading, however, will inevitably produce symptoms of strain if abnormal adjustments are required. These symptoms may be local, such as blurred vision and painful eyes, or they may be more general, including headache, fatigue, and other discomforts. Severe eyestrain may impair not only efficiency in reading but the general health as well, and the difficulty causing it should be discovered by a thoroughly trained eye specialist.

A high degree of visual acuity, i.e., the accurate focusing of images on the retina of the eye, is important for reading. Correct fusion of the images received by each eye, a process called single vision, is likewise a significant factor. The fact that an individual sees clearly with each or either eye does not mean that he will have comfortable single vision. This power of fusion, including stereoscopic vision, or perception of depth, normally develops gradually during early childhood, but it is sometimes retarded or interrupted by various causes and fails to develop fully. In these cases special treatment may be needed to develop normal fusion, and such treatment is, of course, more effective before visual habits have become too fixed. Treatments with the use of a stereoscope are sometimes helpful but, if attempted, should be carried on in accord with the advice and instructions of an eye specialist. If an eye examination is secured, fusion as well as acuity and other visual conditions and functions should be checked.

It has been estimated that in five minutes of reading the eye makes ordinarily over 1,000 separated movements and as many fixations and that as much energy is expended as would be required for hours of distant seeing (228, p. 242). This indicates the need of resting even normal eyes fairly often while doing intensive reading. One way is to interrupt the reading occasionally and focus on distant objects, thus relieving the tension of the eye muscles required for close-range work. A bookrest that elevates reading material at approximately a 45-degree angle from the desk and brings it into a plane parallel with that of the eyes tends to lessen eyestrain. This device is especially helpful for students with visual defects and is an excellent sight-conservation measure for anyone who reads much.

Motor adjustments.

Eye movements. There are differences of opinion as to the relationship of eye movements to reading proficiency. Some remedial programs include procedures for training eye movements, and reports on these techniques have shown improvements in reading efficiency. Some authorities question or refute the efficacy of this eye movement training and affirm that eye movements merely reflect good or poor reading performance rather than cause it. They attribute reported improvements in reading ability under eye training methods to the motivated reading practice instead of to the specific training methods. A point of view accepted by several authorities is that the training of eye movements need not be used in a purely mechanical fashion and that it might well be used in a way that would have strong motivating force to supplement a program in which reading comprehension is emphasized.* A discussion of eye movements is included here as part of a comprehensive picture of the reading process. The practice exercises suggested should not be used in a routine manner without reference to the comprehension of what is read.

Photographic reproductions of eye movements have shown that the eyes do not move smoothly across a line of print but rather with a series of jerks and stops which are, however,

* See Traxler, A. E., "Value of Controlled Reading Summary of Opinion and Research," *Journal of Experimental Education,* 11 280-292, 1943, and Tinker, Miles A , "The Study of Eye Movements in Reading," *Psychological Bulletin,* 43·93-119, 1946.

systematic and progressive in efficient reading. It is during the stops or fixations of the eyes between jerks that impressions are received, and 90 to 95 per cent or more of the reading time is spent on these stops. The eye movements are very swift, and probably no helpful impression occurs while the eyes are in motion.

Since most of the reading time is consumed by the eye fixations, it is important for increasing the reading rate to see as much as possible at each stop. The amount seen at one fixation on the line is called the span of recognition, and this amount varies widely among individuals. Some persons, perhaps because of faulty reading habits acquired early in life, see only a word or part of a word during each fixation and therefore stop many times while reading a line of print. They *may* read fairly rapidly if the pauses are of short duration. The efficient reader, however, usually stops only a few times on an average line of print, taking in several words at one glance. He does not see each letter or even each word but gets the meaning of a larger unit. The number of stops or fixations per line will vary considerably with different types of material and with the purpose of the reader. For example, many more fixations of the eyes are made in reading scientific formulas than in regular prose reading. The variations in the eye movements of good readers are indications of ease or difficulty in comprehending the material read.

Plates I and II (p. 175) show the fixation pauses during silent reading of a fifth-grade subject before and after training. Plate I indicates that this subject was a good reader before the training. However, the number of fixation pauses for the first six full lines was reduced from twenty-nine to twenty-one, with but slight increase in average duration of pauses— from 12.4 to 12.8; note also the changes in the position of the fixations in Plate II as compared with those in Plate I.

After training the first fixations on lines tend to be much farther in from the beginnings of lines, a habit that contributes to economy of eye movement. There was only one regressive movement in the second record. O'Brien says in commenting on the after-training record, "There is a balance, a swing, a rhythm to the eye movements of this subject which no previous record has evidenced."

PLATE I—SILENT READING BY FIFTH-GRADE SUBJECT, L.C.—BEFORE
TRAINING *

```
 1    2           3        4
|In dry| seasons there were more|children and
13    15              12       12

 2  1 3          4         5
|ess|food at home. |Then they assembled and
13 1013          12         16

 1    2       3              4
|flew away in great swarms to the|east and to
12    8       12             19

 1    2       3          4        5
|the south   They traveled hundreds of miles.
10    9           17         15      12

 1           2          3        4  5
|Sometimes on|clear warm|moonlight nights
12           15         12       16  x

    2  1        3     4  5        6
they traveled all night.  More often they settled
   7 11        13    12 12        10
```

* Reprinted from O'Brien, John Anthony, *Silent Reading,* p 254, by permission
of The Macmillan Company, New York.

PLATE II.—SILENT READING BY FIFTH-GRADE SUBJECT, L C —AFTER
TRAINING *

```
     1       2      3         4
Where|cornfields stood|at sunrise nothing re-
     9       9      9         16

         1           2         3
mained at night but stumps or stalks swarming
        17          14        13

       1           2
with hungry hoppers struggling for the last
      15          18

           1          2        3
bite... They stripped the garden patches bare.
          10         16       10

  1        2        3         4
They|gnawed great holes in the rugs and|car-
  16       15       9         12

  2    1       3      4        5
pets put out to save favorite plants.  The|buds
 13    7       14     8        9
```

* Reprinted from O'Brien, John Anthony, *Silent Reading,* p. 255, by permission
of The Macmillan Company, New York.

You can discover the nature of your own eye movements roughly in the following manner. Punch a small hole in the center of a page in a magazine, and have an observer watch your eyes through this hole as you read the material on your side of the paper. The observer should have read the previous discussion of eye movements in order to be able to note significant points, such as number of stops on one line; regressive movements, if any; approximate time taken for each stop; and presence or lack of rhythm.

The character of the eye movements in reading is due to many factors and cannot be controlled by practice of the movements alone. Practice in forcing the eyes to move across the lines of print as rapidly as comprehension will permit may be helpful. Easy materials in which the vocabulary is suited to the background of the reader should be used for this practice, in order that effort may be concentrated on speed and rhythm. Good rhythm involves not only regular movements of the eyes across the lines but a smooth sweep from near the end of one line to near the beginning of the next.

If the span of recognition is very limited, it sometimes helps to engage in practice directed to the overcoming of this specific difficulty. A column of a newspaper is good for this drill because of its narrow width. Try moving the eyes down the center of the column, grasping as much as possible at one glance and attempting to fill in or supply from the context words or phrases not actually seen. This is suggested merely for practice, since a rapid reader usually makes three to five fixations in a newspaper line when the reading is going smoothly (257, p. 724). Cards upon which printed phrases have been pasted could also be used. Begin with short phrases, looking at each card only an instant, and gradually increase the length of the phrases. Even a primer or elementary reader could sometimes be used to advantage in this sort of drill instead of the cards. Improvement will, of course, depend upon persistent practice over a considerable period of time.*

* The tachistoscope and metronoscope are instruments that are sometimes used for drill in reading phrases of varying lengths under timed exposures The present emphasis is upon their use for research rather than training in reading.

By learning to overlook unimportant words, to concentrate on the significant words and phrases, and to combine these into larger units of meaning it is possible to include more in a single act of comprehension   The reader is thus carried along by the drift of the theme, not held back by the dead weight of individual words.   Learning to anticipate what is coming is helpful, since verifying or refuting one's own anticipation is easier than digging a new inert fact or point of view out of cold print. Have someone blot out the unimportant words in a magazine article that you have not read and then attempt to read it with rhythmical eye movements until the meaning is clear.   This practice establishes the habit of filling in unimportant words from the context.   Research indicates that short words get slightly more fixations than they should according to the space occupied.   Presumably a familiar long word, being a coherent whole, is more easily grasped than an equal space filled with short words.   The general shape of a word offers some cue value, especially in indirect vision before the eye reaches the word in continuous reading, but the clear view of letters and familiar letter groups during the instant of direct fixation is of greatest value.   Easily recognized prefixes and suffixes also furnish important cues for word recognition (257, pp. 729-744).

Avoidance of unnecessary movements.   A high degree of perfection in any skill involves the elimination of all superfluous movements and the conserving of energy for the important ones.   By nervous habits such as shrugging the shoulders, tapping with the fingers, or moving other parts of the body many individuals dissipate energy while reading.   Such habits should be overcome by persistent effort.

More serious than any habit mentioned above in retarding reading speed is the one of vocalization—*i e.,* speaking or whispering the words, moving the lips, or any other undue activity of the vocal organs.   The eye can perceive words much more rapidly than they can be pronounced, so that this habit of vocalization is certain to slow up the reading process as well as dissipate energy and distract the attention from the thought.   Read a page of a story aloud, and then read one to yourself, timing both readings.   You should read a page silently in less than half the time that you read it aloud.   If

the two readings take about the same time, you are probably
talking to yourself as you read silently. The important factor
in overcoming this habit is to direct attention to the reading
process. Practice in reading rapidly seems of itself to reduce
vocalization.

Mental background and habits.

Vocabulary. A limited general vocabulary or an inadequate
vocabulary for a particular field of study may hamper reading
efficiency. If you are not a wide reader of literature and cur-
rent periodicals, your general reading vocabulary is undoubt-
edly in need of expansion.* Each field of study also has its
special vocabulary of technical terms, which needs to be mas-
tered before fluent and accurate reading can be achieved. The
following are suggestions for increasing your vocabulary ·

⌐ Have a good dictionary at hand while studying, and look
up new words or those about which you are uncertain as to
exact meanings.

Note derivations of words so that you may become familiar
with roots, prefixes, and suffixes and thus develop proficiency in

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* Several good tests of vocabulary, both for general reading and for
technical vocabularies, have been standarized for high-school and college
students. If any of these are available in your institution, you will be
able to discover whether your vocabulary is average or below or above
average for your educational status If such tests are not available, you
can test your general reading vocabulary by the following method which
is described more fully by L A Headley in *Making the Most of Books,*
published by the American Library Association, pp 61-64 Use Webster's
New International Dictionary, 1909 or any later edition. Open to any
one of the first 100 pages, and pick out at random a word printed in
boldface type—say the first word in the third column. Do not look at
anything but the word itself, see if you can define it, and then read the
definitions to see if yours is a satisfactory one. Next turn twenty-three
pages ahead, and repeat the process with the word in the corresponding
position on that page Continue the process on every twenty-third page
ahead until you have tested yourself on 100 words Keep a record of the
number of words that you have defined satisfactorily. Multiply this num-
ber by 104,000, the approximate number of words in the body of Webster's
dictionary, and divide the product by 100. The result will be your approxi-
mate reading, or recognition, vocabulary.

The typical American college student has a recognition vocabulary of
about 62,192 words The average recognition vocabularies for the different
years in college are· freshman, 58,240 words, sophomores, 60,840, juniors,
63,440, seniors 65,520.

deducing their meanings from their derivations. It is also interesting to note changes that have occurred in the meanings of words   Words have been compared with little boats coming down from the past laden with all the meanings that have been attached to them through the ages   Tracing their histories is often as interesting as reading a story, and it helps to reveal fine shades of meaning otherwise lost.   Knowledge of other languages that have influenced our own should also be utilized in analyzing words.

Judge the meaning of new words from the context whenever possible.   Do not interrupt your reading often to look up new or uncertain words.   The exact meanings of important technical terms should be discovered when they are first met, but aside from these and other words that may prevent fair comprehension of what is being read, it is a good plan to jot down uncertain words to look up later.   They may then be reviewed in their context, and any inaccuracies of meaning corrected.

Note nice distinctions in the use of words by different authors or in various subject fields.   Practice of this sort will improve efficiency in judging shades of meaning from the context and will help to make you more word-conscious.

Keep lists of new words, and in your leisure time review these words and practice using them in speaking and writing   A reading vocabulary is always much larger than a speaking and writing vocabulary, but using a word makes it a more permanent possession than merely recognizing it in print: also, words used as vehicles for one's own thoughts, when met in print, facilitate richer associations that are important for comprehension.

Interest and concentration.   Chapter X should be reviewed at this point, since the suggestions given there apply especially to problems of interest and concentration in reading.   The reader's attitudes determine to a large extent the efficiency of his reading.   An emotional antipathy to reading caused by early difficulties frequently carries over into later years.   Reading should be approached with as much anticipation and wholeheartedness as a game of tennis.   A bored or antagonistic attitude is fairly sure to result in a wandering of attention and therefore in poor comprehension.   When a page or chapter is scanned without knowledge of what has been read, the mind has

not been inattentive but merely attentive to something else other than the reading. The problem is to direct the attention to the immediate task. We most easily attend to what interests us most, and hence we are most interested in and find no difficulty in concentrating on a good novel or our special hobbies. When required reading is not intrinsically interesting, the problem is to build up controls, perhaps artificial at the start, that will hold attention until interest in the topic has been developed.

Since many reading references required in college courses are not written in a style that helps to hold the attention easily, attention-holding devices are valuable even beyond the initial stages of orientation in a new field of study. As suggested earlier, the most important control is the possession of a definite purpose in reading. If this purpose is vitally related to deep interests, it may result in such complete concentration that not only external distractions but physical needs and discomforts may pass unnoticed. At the start, however, a purpose may be as artificial as working against time to complete a reading assignment in order to do something else or to improve a previous record. The most important contribution of a reading purpose is that of causing the individual to react positively to what is read rather than to assume a passive attitude of absorbing it. Questions may be held in mind to be answered, the reading thus becoming a search, or hunt, or the reader may predict what is said in a succeeding paragraph and verify or refute his predictions. He may take issue with the statements of the author and engage in a battle of thoughts. He may read between the lines to discover meanings not elucidated and may supplement the reading by facts and points of view drawn from his own experiences. By a little experimentation one can discover a host of aids to concentration.

Getting a bird's-eye view of the unit read. Purposes in reading a particular selection can be formulated more clearly if the general plan of organization is understood. Topics and details can then be seen in their proper perspective and relationships, and the reader can more easily judge the relative importance of each. With a book first become familiar with its general features, such as title, author, date of publication, and its place in a series if not a unit by itself. These will usually give clues

as to the nature and scope of the work and its dependability as a source of information or of worth-while judgments. A preface will often give helpful pointers about the author's approach to his subject and his methods of dealing with his materials. The training and experience of an author can be looked up in *Who's Who* or *Who Was Who*.*

The table of contents, chapter headings, and section or topical headings give a general understanding of the scope and organization of materials. Note what is introduction, body, or conclusion, and note the main divisions or topics of the body of the selection. When a selection has been skimmed over for these points, the careful second reading can be done more effectively, since it is then possible to see the relations of details and subtopics to the main divisions. If difficulty is encountered in seeing these relationships, it would be well to practice outlining selections, designating main topics and subtopics with the system of numbers and letters suggested in Chap. XIV †

Getting the central thought. The central thought of a book, chapter, or selection can usually be secured while noting organization. The author sometimes states it in the preface or the opening chapter or paragraph. Concluding chapters in books or summary paragraphs at the end of chapters often sum up the main ideas in a concise manner and can be used to advantage in securing a preview.

A well-organized paragraph, like a book or chapter, has a main thought around which it is built, and the efficient reader has developed skill in locating the topic, or key, sentence in the paragraph that contains this central thought. The rest of the paragraph usually contains details that are organized around the main theme. This ability to note key sentences and their relationship to details enables one to follow through threads of thought without getting lost in a mass of details.

Getting facts and details and distinguishing between facts and opinions. Attempts to increase reading rate may result merely in hazy, inaccurate impressions unless sufficient attention is given to practice in securing exact impressions of details

* There are other good dictionaries of biography that may be consulted for authors who are no longer living

†

in their ordered sequence. Except when reading purely for appreciation of style, beauty, rhythm, etc., there should also be a critical attitude of trying to distinguish between facts and opinions. When asserted facts are encountered, ask such questions as, Is this true? How do you know? Why is that so? Is this a tested truth or merely a best judgment of the author or someone else? This critical attitude has the additional value of keeping a reader alert. Learn to note facts accurately but to see them in their ordered sequence and to distinguish between main and subsidiary facts.

To improve skill in these respects, try jotting down the main facts in a paragraph or section just read, and then fill in the subsidiary facts. Reread the selection to be sure that no important ones have been omitted and that none has been stated inaccurately. Again try skimming some selections merely to discover important facts and others to note details carefully, but always keep these related to the main points.

Reading rate. We have now looked at the steps in the reading process and are ready to speed up the action. The method, as in most skilled techniques, is well-directed practice. This practice should involve the conscious effort to read as rapidly as good comprehension will permit. Progress may depend upon pushing yourself beyond the point of comfort in reading speed before the improved rate becomes habitual. Use various types of reading material such as a newspaper, magazine, novel, and textbook, so that your speed will not be retarded by the compact material found in the usual textbook. Record the time required for a given amount of each type of reading in successive practice periods, and chart your progress on a graph. The incentive of competition with a previous record is thus brought into play.

The saving of time is not the only reason for emphasis upon speed. Tests have shown that rapid readers usually comprehend what they read better than slow readers do. This fact is partially dependent upon the nature of attention. We have already noted that the mind does not attend to any one idea longer than a few seconds; and if not called upon to move fairly rapidly from one point to another, it easily goes woolgathering, and concentration is not achieved.* The reading speed should

* See p 136.

be fast enough to keep the attention within bounds but not too fast to achieve the sort of comprehension desired.

Have you developed an adequate reading rate?   Rate of reading is generally expressed in terms of number of words read per minute.   If you wish to check your own reading rate roughly, choose a passage in a text of average difficulty, and read steadily for exactly five or exactly ten minutes.   Estimate the number of words read by counting the lines in the section read.   Multiply this number by the average number of words per line, which can be estimated by counting the number of words in each of ten or fifteen lines.   Then divide this product by the number of minutes read.   If the resulting number of words is not well above 250, you can probably increase your reading rate considerably with practice.   Many institutions give students reading tests that measure speed and comprehension and oftentimes specific reading skills.   Such tests are preferable to the method of checking suggested here, if you can secure your score and an interpretation of it.

What are the various purposes for which we read?

"Some books are to be tasted, others to be swallowed, and some few to be chewed and digested."

We shall not attempt to apply this well-known quotation to classes of books—for that is an individual problem varying with each reader—but rather to the types of purposes in reading.   We shall group these roughly under four headings.   The groupings are not mutually exclusive.   They overlap and may all be present in some reading experiences.

Skimming. This type of reading calls for the extreme speeding-up of reading rate and may be carried on for the purpose of discovering the scope, central thought, or organization of a book, article, or passage; a point of view of an author; or facts about a particular subject.   This process should usually precede a more careful reading, in order to note relationships and place emphasis more effectively in the second reading.   Fiction, drama, or poetry are exceptions, since interest in a developing plot or appreciation of style or beauty might suffer or gain nothing from this preview.   In skimming, the eyes skip unimportant words or phrases, and even whole sentences receive only cursory glances at times.   Topical headings, key

words, sentences, and paragraphs hold the attention when a general preview is desired, and the table of contents and index may be used to advantage where facts relating to a specific topic are being sought. In a textbook or a scientific or philosophical treatise the author's central thought is often found in summary paragraphs or chapters.

Skillful skimming can be achieved only when the technical aspects of reading have been brought to a high degree of proficiency, and even then it should be used only for specific purposes. If misused, skimming can easily cause the development of habits of superficial and inaccurate reading in general. Wisely used, it becomes the open sesame for wider and more effective reading.

Mastery of content. This may involve "swallowing" the material—hook, line, and sinker—without criticism or personal reaction of any sort. Probably much so-called "study" in high school and the early years of college is of this type. Mastery is a misnomer if the reading process goes no further than this, since the mind becomes merely a sponge—usually a sieve also. Whatever is retained in memory under such conditions is useless, except for examinations. The first step is to find out exactly what the author is saying. Stop occasionally, even at the end of each paragraph, and summarize what has been read, or answer pertinent questions about it.

A careful reading of materials previously scanned to ascertain the value of more attention will offset the otherwise bad effects of too much rapid reading. The effort should be made in this careful reading, however, to increase the speed as much as possible without interfering with accurate comprehension.

Criticism. Here we shall consider the processes of "chewing and digestion." Just as it is necessary for food to be acted upon by the digestive fluids before it can be assimilated by the body, so, figuratively speaking, it is necessary for mental food to be acted upon by the juices of the mind—the thought processes—before it can be assimilated and play its part in mental growth. *Good reading is really good thinking which draws upon both the ideas expressed on the printed page and the mental background of the reader.* An alert and critical attitude is necessary—an attitude that causes the reader to challenge each new fact and point of view, to question the au-

thority and truth of stated facts, to check upon their sources or perhaps accept them only tentatively until further proof of their reliability can be secured, to compare with previously acquired information, to trace and criticize the logic of points of view expressed, and to reflect upon any implications of the writer.

The extent to which a reader can carry on this thinking process depends largely upon his orientation in the particular field. A scientific treatise on the quantum theory or on radio may evoke little critical thinking by one who has no background of experience in these fields of study. Likewise, a reader of history may at the start be entirely uncritical as to historical evidence or interpretation and unable to evaluate conflicting statements. It is necessary to become familiar with the methods of research in a field and to build up a background of basic information before the critical thought processes can be exercised to any extent. Each field of study, however, deals with a phase of life; its separation from other fields is in a sense an artificial simplification to aid study or research. Each field, no matter how technical, has its relationships to human life, and the novice can search for these relationships while he is developing a background in the more technical aspects.

The modern reader needs a high degree of skill to steer his mind between the Scylla of gullibility about anything seen in print and the Charybdis of authoritarianism. It has been said often of late that the authoritarianism of past centuries has been replaced by tested truth, but "What is tested truth?" is a question as pertinent today as was Pilate's famous question in his day. Fortunately we no longer have an Aristotle or an absolute standard against which to check new ideas; therefore, our literature need no longer be an imitation of ancient classics to be "literature," and our scientific knowledge need not conform to Aristotle to be true. This sort of authoritarianism has been replaced by the authority of the laboratory and the scientist, but the difficulty for the reader lies in the fact that this authority is in a constant state of flux. The tested truth of today may be replaced by a new and conflicting truth tomorrow and thus may necessitate a reevaluation of attitudes, knowledge, or conduct.

Learn to recognize propaganda. More dangerous than the shifting course of tested truth is the deception of the propagandist. His *intentions* are to deceive the reader, and he develops many clever devices for blinding the reader's eyes while he lures him into traps. He assails us on every side today with masses of half truths, distorted facts, and emotional appeals, which appear plausible in cold print. The modern reader must be on his guard to escape such wiles.

Propaganda devices need not fool us if we learn to recognize them. Some of these common devices have been designated as "name calling," "glittering generalities," "testimonial," "plain-folks device," "card-stacking device," "bandwagon device," and the "transfer device." In using the transfer device the propagandist carries over the sanction and prestige of something that we revere to something that he would have us respect. For example, a nation, the flag, the Constitution, and the church are frequently used to arouse our emotional support or rejection of a cause.* The names of the other devices are probably self-explanatory. Thoughtful analysis of advertisements and of writings dealing with current issues will help us to detect these various devices of false propaganda and to avoid their deceptive influences.

Enjoyment and enlightenment. Reading of this type at its best is what Anatole France described as "the adventures of the soul among masterpieces." But too often it is merely a way of consuming time—a passive absorption in mediocre writings which open no new doors to real life and strike no spark in the imagination of the reader. Reading for pleasure should take the attention away from required duties and afford recreation. It may well serve as an anodyne when such is needed; but it may also serve to liberate the human spirit.

Two objectives are necessary to achieve these ends: (1) the development of a taste for worth-while books and (2) the development of the habit of reacting as actively to books read for pleasure as to those read in connection with work. The time for such reading is assumed, of course, and should be provided for in the budget of any college student.

* Miller, Clyde R., "How to Detect and Analyze Propaganda," *A Town Hall Pamphlet,* New York, The Town Hall, Inc., 1939, pp. 26-32.

Good taste in reading does not involve adherence to certain rigid standards of criticism.   Standards of literary criticism are matters of fashion like clothes and automobiles.   A reader may agree with some of the literary critics, or he may merely use them as tentative guides in the development of his own individual tastes.   Rogers, in his book *The Fine Art of Reading*, has emphasized the need for "pulling one's self up by one's own bootstraps" in developing a taste for good reading.   He says·

I have tried to show you that the Absolute is a mythical bird. All criticism is comparative and cumulative.   The more you read the more material you will have to compare with the newest book which may be in question   The more you read the higher will be the tower from which, like a fire warden, you can watch for signs of new conflagrations in literature, distinguishing easily the thin chimney smoke from the denser and blacker smoke that presages a real fire.   . .

Literature is neither a pastime nor, as the jargon of today goes, an escape.   Literature is meat and drink.   It is full of calories and vitamines   It is a tonic and a stimulus   Even to the sick it is not an opiate, but oxygen, and blood transfusion, that precious life-blood of master spirits of which Milton speaks   More people have been restored to health by books than have been poisoned by them (191, pp 290-291) *

Several good periodical book-review digests are published today that will keep one in touch with new books and help to guide one's selection, and also numerous guides in book form to good literature of the past.   Some of these are listed at the end of this chapter

With a few well-chosen guides one needs to plunge into the wilderness of books and try for one's self what seems good and worth while.   Jesse L. Bennett has said regarding such efforts:

Whether at college or outside it, the only true and enduring education is self-education   It must have two essential qualities—broad and well-rounded understanding and zest.   Out of the chaos of books, the man who seeks to educate himself must find books which can give him one or both of these things   For no knowledge is valuable unless it is vigorous and dynamic and zestful.   And no

* Reprinted by permission of the Stratford Company, Boston

zest for life or knowledge or self-perfection can endure unless it is associated with broad understanding of the individual's real place in the world—of the planet on which he lives, of the past which produced him, of the present of which he is part, of the future which he will help to shape, and of the beauties and splendors which make life worth living (18, p. 19).

Science, history, biography, literature, and philosophy all may play a part in this sort of self-education. Prejudices and intolerance may need to be lessened before some subjects or authors can be attempted, but a wide sampling read thoughtfully is the best antidote for either poison. Reading and interpreting people and events are as important as reading books. No intelligent person can remain uninformed on the critical issues in the current of life today that may fundamentally affect the nature of human living. No educated person can escape the obligation to keep in touch with emerging trends and to do his share, no matter how small, to direct their course. Eternal vigilance is one price that we pay for the privilege of a democratic way of life.

How shall one read for enjoyment and enlightenment? Here again we shall quote Rogers:

All mature art, good music, thoughtful painting, imaginative literature demands as much as it gives and will not give without response . . . (191, p. 33).

Reading a book is like dropping chemicals into a test tube. It is dropping ideas into a brain. There should be a reaction, some kind of an explosion. No explosion, no brain. The book *may* be at fault, but ten to one it is the brain which is inert. Every book contains at least one point where an idea touches your personality and your life, is of immediate interest to you. It may be an idea, it may be an experience. There is the springboard for your dive into your own spirit. No book but contains a text which you can illustrate from your own interests and memories. A good book will contain dozens. You must jot them down as you come to them. Then, while the book is still fresh in your memory, play solitaire with your jottings. Out of them will emerge a main theme, a critical conception. The others will hang on that main theme like cooking pots on a crane. And presently you will be sure in your own mind what you think about that book and why you think it (191, pp. 15-16).

Thus, even in leisure-time reading, we have activity, but we know that real rest for a healthy person comes from a change, not a cessation, of activity and that real play is nothing but a form of self-imposed activity, rather than one that is required   Let us not rob ourselves of some of the most priceless experiences in our lives by turning the enjoyment of active reading into the boredom of passivity.

Reading Inventory

1   In which of the factors involved in effective silent reading are you deficient?

2   Examine the list below, using methods suggested in the text for detecting defects if you have not already done so.

a   Vision
b   Motor adjustments:
   (1) Eye movements.
   (2) Control of vocalization or other unnecessary bodily movements.
c.   Mental background and habits:
   (1) Vocabulary.
   (2) Interest and concentration.
   (3) Getting a bird's-eye view of the unit read.
   (4) Locating key sentences.
   (5) Grasping the central thought of a paragraph or chapter
   (6) Absorbing facts and details
   (7) Remembering what you read.
d.   Reading rate.
e   Adjusting speed and methods of reading to the nature of the materials and the purpose of reading.

3   Outline a program of remedial practice for overcoming each deficiency or defect.   Keep these programs in a convenient place for reference, and set aside specific periods for practice

4   Try to apply the suggestions in this chapter in your daily reading

5   Plot your rate of reading over a period of weeks or months on a graph, so that you can measure your improvement.

6.   Note any effects that improved speed or comprehension in reading may have upon your efficiency in study and your achievement in various courses

7.   Is there sufficient variety in your leisure-time reading?   Check through the fields for reading listed below to see if there is sufficient variety in your leisure-time reading   Indicate by code num-

ber the extent of your reading in each field. Use the following code:

- *a* Adequately covered in my reading.
- *b.* Some reading in this field.
- *c.* Rarely or never touched upon.
- *d.* Field in which I plan to read.

<div align="center">FIELDS OF READING</div>

Significant world happenings	Drama
Current political developments	Biography
Economic conditions and trends	Developments in your prospective
Social conditions and trends	field of vocational endeavor
Science and inventions	Sports
Philosophy	Art
Religion	Music
Poetry	Travel and geography
Fiction	Adventure or mystery
	Specify others

SUGGESTED READINGS (see Selected References, pp. 471-483): 1; 18, 23, 26; 145, 189; 191; 259.

SUGGESTED GUIDES FOR PERSONAL READING FOR THE STUDENT

<div align="center">Prepared by Winifred E. Skinner, librarian,
Pasadena Junior College</div>

This list is intended to be suggestive only. It is in no way comprehensive. Most of the books are not new, but all have been found helpful in one way or another through the years of their existence. It should be noted that these books are confined chiefly to the field of literature. The user will remember that each department of knowledge has its own bibliography with which we cannot attempt to deal here.

BECKER, MAY: *Adventures in Reading,* New York, Frederick A. Stokes Company, 1927, 248 pp.

Although this work was prepared for young people of high-school age, it will be found stimulating and suggestive to college students.

BECKER, MAY: *Books as Windows,* New York, Frederick A. Stokes Company, 1929, 289 pp.

Her contagion for good reading will be caught by anyone who is the least susceptible. The author is known as the "Readers' Guide" to those who read the *New York Herald Tribune Books.*

BENNETT, ARNOLD: *Literary Taste: How to Form It, with Detailed Instructions for Collecting a Complete Library of English Literature*, New York, Doubleday, Doran & Company, Inc., 1909, 127 pp.

Advice on reading and selecting one's personal library.

BENNETT, JAMES O'DONNELL: *Much Loved Books· Best Sellers of the Ages*, New York, Liveright Publishing Corporation, 1927, 460 pp.

Approximately sixty books of widely diversified interest, briefly described and estimated in from five to ten pages each

CHANCELLOR, JOHN, MIRIAM D. TOMPKINS, and HAZEL I MEDWAY· *Helping the Reader toward Self-education*, Chicago, American Library Association, 1938, 107 pp.

ENGLISH, THOMAS H., and WILLARD B POPE· *What to Read*, New York, F. S. Crofts & Co., 1929, 173 pp.

List of approximately five hundred books from the literature of the world that should be good reading for undergraduates.

GEROULD, GORDON HALL: *How to Read Fiction*, Princeton, N. J., Princeton University Press, 1937, 153 pp.

"Not literary history or a statement of literary judgment, but merely a little treatise on the art of reading fiction." Author's preface.

HAINES, HELEN ELIZABETH: *Living with Books: The Art of Book Selection*, New York, Columbia University Press, 1935, 505 pp.

Although intended primarily for the librarian, this book has stimulation and charm for all who would become acquainted with books as literature or as contributions to the cultural life   The lists of books appended to each chapter are of unusual value.

HAINES, HELEN ELIZABETH: *What's in a Novel*, New York, Columbia University Press, 1942, 283 pp.

A wise and stimulating book evaluating fiction.   Faculty and students of fifty colleges and universities participated in a survey to list the twenty-five books most in demand and to rate their current popularity as indicated by their choice as possible Christmas gifts for themselves.   Miss Haines's book was twenty-third on the list.   It you are interested in the other books of the poll, see the *Saturday Review of Literature*, Nov. 21, 1942

JONES, LLEWELLYN: *How to Read Books,* New York, W. W. Norton & Company, Inc., 1930, 229 pp.

"Its aim is to help the reader to enjoy them—not to improve his mind or to urge him to change or purify his tastes" (Preface).

KOCH, THEODORE WESLEY: *Reading: A Vice or a Virtue?* Dayton, University of Dayton Press, 1929, 119 pp.

Besides the title essay, the volume contains "The Essence of Poetry," by Sir Percival Rodd, and "Standards of Value in Fiction," by Franklin Bliss Snyder, the three being essays on cultural reading delivered before college audiences.

MAUGHAM, W. SOMERSET· *Books and You,* New York, Doubleday, Doran & Company, Inc., 1940, 107 pp.

These essays, first published in *The Saturday Evening Post,* will introduce the uninitiated reader to worth-while books.

POCOCK, GUY: *Brush up Your Reading,* Philadelphia, David McKay Company, no date, 113 pp.

English literature only is included under the chapter headings. A "where to begin" book. Most of the recommendations are for adults. Some juveniles are included.

SHIPLEY, JOSEPH T.: *Quest for Literature: A Survey of Literary Criticism and the Theories of the Literary Forms,* New York, Richard R. Smith, 1931, 540 pp.

The book is not too difficult for the average student interested in the development of critical thought. The appended bibliography is varied in content and suggests a wide range of reading in the field of criticism.

Periodical guides to current literature: *New York Herald Tribune Books, New York Times Book Review; Saturday Review of Literature.*

NOTE TAKING

Is note taking important?

Surveys of the study practices of successful students have given note taking a fairly high rank among helpful study techniques.

A class of seniors at the Carnegie Institute of Technology recommended that freshmen should be taught how to take good notes in order to avoid trial-and-error methods. Studies of difficulties encountered by students in their work techniques almost always include note taking as a problem (253, pp. 311-325).

What are the purposes of note taking?

A study device. Good notes are good tools in learning. The important feature of note taking is what goes on in the mind of the learner, which largely determines the nature and the value of the notes. Good note taking is not just a recording of what is heard or read; it is the result of an active mental process.

An aid to attention, clear thinking, and memory. The correct attitude for note taking, as for all types of effective study, is not that of passively absorbing information but of reacting analytically and critically to every idea encountered in the process. What is the problem or topic being considered? What is the author or lecturer saying? How does this specific part relate to the general problem? What are the important points, and which the subsidiary ones? What is the authority for this statement? Do I agree with the author or lecturer, if he is expressing an opinion or deducing conclusions from assembled data? Does this tie up in any way with my experience? Such questions keep the mind actively working on the topic, analyzing and evaluating its components, associating it with many other experiences, and building it into the fabric

of one's mental life. What goes into notes should be the resultant of this mental activity. Notes are then records of experience and growth and a means to further growth, not a catchall for facts or phrases needed to pass an examination. Notes should, of course, contain much accurate information, but the arrangement and statement of this information should reflect clear and critical thinking on the part of the note taker.

In an earlier chapter we learned that we forget a large percentage of what we read or hear in the first few succeeding hours and at a slower rate from then on. Making the notes helps to strengthen first impressions, and reviewing and using them help to fix the materials in mind.

Value in reviewing and in progressive organization of a field of study. Reviewing the notes taken during one unit of study before beginning a related one gives background and orientation for the new unit. As one progresses in the study of a subject, previously learned facts or acquired viewpoints often take on new meaning. A system of note taking that permits easy location of earlier materials for review in later study is a tremendous aid to continuous reorganization of a field and to progressive growth.

For the preparation of themes or reports. Any report or theme worthy of the name should be the result of wide reading, thorough assimilation of the materials read, and a new organization of the topic that has developed in the writer's own mind during the study. One cannot anticipate at the start just what this organization will be. Accordingly, notes of the loose-leaf or card variety which can be sorted are preferred. Often one needs to quote authorities or supply accurate data in the paper; and if careful notes have been taken during the reading, much time will be saved. Copying of exact quotations that seem highly significant is sometimes helpful.

For professional growth and writing. This use of notes is not often considered by a freshman student, because it seems so remote; however, if one feels fairly certain of specializing in a particular field, the early development of a flexible system of note taking that can be carried over into advanced study is worth while. Beginning survey courses offer excellent opportunities for gaining comprehensive views of fields of study and for starting helpful classifications of materials within these

fields. If this future use of notes is anticipated, the relative merits of condensed abstracts and exact quotations should be carefully considered. All such notes should contain accurate statements as to the sources. Matters of form and technique will be dealt with later.

What are the significant features of good notes?

They are usually brief but always intelligible. To take brief, condensed notes it is necessary to determine exactly what is said or written and then restate the important ideas more tersely in your own words. This is a skill acquired only with much practice. Students should not expect perfection at the start but should work persistently for improvement. Usually it is better to make complete statements than to enter a few suggestive phrases, as the latter may not be intelligible or carry any significant meaning for very long after they are made. Abbreviations of frequently recurring words save time if they are easily recognized and systematically used, but this practice should not be carried to the point of developing a sort of short-hand system that will require effort to remember. Full attention should be focused on getting meanings and restating them. It is better to take fewer notes and state them clearly than to have a confused and garbled mass that cannot be deciphered. Notes should be as neat and legible as your handwriting will permit!

The amount of detail to be included in notes varies with the subject, its treatment, and the background of the student. When many illustrations of a principle or idea are given, it is often possible to omit most of them without detracting from the value of the notes if a precise statement of the principle or idea is made. Details should be noted when essential for the logical development of a problem. The learner who has a rich background of information in a field may not require such full notes as the novice, though he may note as significant many points that would escape the attention of the uninitiated person.

They should be accurate. An inaccurate or ambiguous restatement of an author's or lecturer's words is worse than none at all. Accuracy in notes depends on accuracy of impression and on clear thinking in rewording the ideas. A summary or

paraphrase may, if not carefully worded, carry a very different meaning from the original statement   If, in taking notes on a lecture, one does not fully understand a point, the statement in the notes should be followed by a question mark so that it can be clarified later.   If an important point is lost, it is desirable to leave a blank space to be filled in.   Accuracy of reproduction is perhaps the most important as well as the most difficult feature of note taking.

They should be comprehensive in scope and well organized. In notes on a lecture or a reading reference all the major points should be included in their proper sequence and relationships. When reading, first obtain a bird's-eye view of the material and note main and subordinate topics; thus it is not likely that important ones will be omitted or minor ones overstressed. Paragraph headings and chapter summaries are a great help here.

With lecture notes organization is not so easy to achieve unless the speaker furnishes an outline or previews the main points at the outset.   His tone of voice or emphasis may indicate the major points until the outline of the lecture takes a clear form in the mind of the listener.   Lecture notes are more difficult to take than reading notes because one must follow a developing theme at the lecturer's pace, without retracing steps or jumping ahead to secure a preview.   To take good lecture notes one must have the ability to predict relationships before they are fully revealed in the lecture.   Poor organization on the part of the lecturer sometimes complicates the process. Blank spaces to be filled in later where points are hazy often keep lecture notes in a usable form.   *The notes should be reviewed as soon as possible after the lecture* to clarify ambiguous statements and to insert omissions.

What has been said with reference to the scope of notes will not apply, of course, where one is searching for particular facts or information.   But even here, one should be cautious about taking isolated facts out of their context, since they often take on a different meaning when standing alone.

They should be so arranged as to be quickly and easily visualized.   Mechanical arrangement of the notes on the page takes care of this feature, but a successful arrangement depends upon clear comprehension of major and minor points in the ma-

terials. A skeleton outline should be manifest throughout the notes with main topics and subtopics clearly designated. Indentation and a uniform labeling system are the chief mechanical aids. Main topics should be placed at the extreme left; every topic or statement subordinate to another should be indented further, coordinate topics should be kept on the same line of indentation; and all lines belonging to a particular statement should be kept on the same line of indentation.

The usual labeling system employs the following symbols:

I
  A
  B
    1
    2
      a
      b
        (1)
        (2)
          (*a*)
          (*b*)
II

If, after practice, you find it difficult to use these devices, examine the clarity of your thinking, as the two are closely related. Remember that a page of closely written, unorganized notes takes more time to review than one with an outline organization.

Specific topics should be easily located. It is often necessary to refer to a previous topic when studying a later one, and time is saved if each can be located easily. Two features allow for this: (1) placing the notes for only one topic on a page and (2) placing the title or heading for the unit in a conspicuous place.

The first feature may seem uneconomical at first, but time is more valuable than paper, and if one lecture, class discussion, or reading assignment is used as a unit, the notes will usually cover one or more pages. It is generally recommended that only one side of a sheet of note paper be used except to complete notes on a unit.

The title, or heading, of a unit may be centered at the top of the page below a sizable margin or placed, say, in the upper

right-hand corner to facilitate its location when thumbing over the pages. The full title could be placed in the center as a heading for the notes, and an abbreviated title in the upper corner of each page, if more than one, to prevent disarrangement. For notes on a reading reference the author, title, date of publication,* and chapter or page references should be given. For lecture notes the class and instructor should be designated. These precautions are largely for the purpose of retaining the usefulness of the notes if they are re-sorted for later use or if they should be accidentally disarranged.

Notes should be flexible, or adaptable to varied uses. One problem or topic is very sure to have bearings on others. This may be true of topics studied in different courses as well as of those in one course. A loose-leaf or card system of notes makes it possible to rearrange them in any desired order, bringing together those which relate to any particular problem. After they have been used thus, they can be replaced in the original order or eventually filed according to a general system of classification that one develops as study progresses in varied fields.

They should allow for registering one's own reactions. The most important result of study is not the acquiring of facts but what happens to one's self during the process. Personal reactions to materials studied are among the best indexes of real growth, and they need to be nurtured and encouraged. Noting these reactions as they occur helps to stimulate interest and thinking, preserves them for further study, and builds up a significant record of progress. Without continuous personal reactions in the form of questions and critical evaluations, study is sure to degenerate to the level of mere passive absorption of information.

Personal reactions should be distinguished in some way from the materials summarized. Marginal notations or enclosure within brackets [ ] are two common methods of setting off your own ideas.

How may a serviceable system of note taking be developed?

Each student should develop his own system based on psychological principles, tested experience, and his own personal

* Date of publication is important in order to judge of the recency and in some cases the dependability of the reference.

needs. In building a system consider the various forms of notes, the specific purposes for which the notes are being made, and personal idiosyncrasies.

Different forms of notes.

Outlines. These may be of three different types:

1. Topical outlines with words or phrases for headings, clear meaningful statements; and with symbols and indentations to indicate the relationships of main topics and subtopics.
2. Sentence outlines, which vary from (1) above only in the use of complete sentences.
3. Annotated outlines which may be used with either (1) or (2) above.

Synopses, essential data, diagrams, key sentences, and exact quotations may be included under the headings in the outline. For most purposes this third form is probably the most useful of the three.

Summaries or abstracts. These may be brief, containing only the essential ideas, or fairly long, including important details as well. They are arranged in paragraph form and are condensed accurate restatements of the main points.

Exact quotations. Some scholars advocate the use of this method almost exclusively for notes on reading. It has the advantage of preventing the garbling of the author's ideas and may be used effectively in writing where exact quotations are desired. Much skill is needed in choosing key sentences. Otherwise the notes become too bulky and burdensome. Quotations may become a substitute for critical thinking if not carefully used. They should probably be limited by the beginning student to unusually terse statements and to literary quotations that have an aesthetic value for him.

Bibliographical notes. These should usually include author, title, form (book, monograph, article, etc.), publisher, place and date of publication, number of pages, a brief summary of the scope of the work, conditions under which it was produced, and critical estimates by others and self. When a bibliography is being compiled for a specific report, page or chapter references to relevant material and evaluation of its contributions to the particular problem should also be included. Library call

numbers are a great convenience when the notes are ·used. Cards are usually more serviceable than note paper for bibliographical notes, as they can be handled and sorted more easily.

Mechanical aspects of a system of note taking.

Notebooks   For loose-leaf notes, it is usually preferable for an undergraduate student to use a large-size notebook which will hold theme or typewriting paper (8½ by 11 inches) and syllabus sheets. Notes for different subjects can be kept separate with cardboard index divisions.

Cards.   Regulation sizes are 3 by 5, 4 by 6, and 5 by 8 inches. The last two sizes are usually the best, as they allow more space for notations. Some recommend 3 by 5 cards for bibliographical notes.

Filing.   Manila folders for letter-size or legal paper are convenient for filing away notes and papers not in active use. Most students do not have filing cases, but material thus organized could be easily located even if stacked on a shelf in boxes or in a drawer and would form an excellent nucleus for a filing system if desired later. Boxes or files of a size to fit the cards are convenient. Index division cards can be used for grouping the cards by subjects and by topics within a subject. Various groupings of letter-size notes can also be achieved with Manila folders. A small investment for these purposes will result in much time saving and increased efficiency.

A system of filing should be kept up to date. If a particular classification, important at some time, loses its usefulness, it should be discarded, and the materials so filed, if desirable to keep, should be reclassified and placed elsewhere. New topics or classifications when needed should be added but fitted into the logical scheme of organization.

Suggestions and cautions as to techniques in note taking. The technique should vary with the purpose of the note taking. Lectures, class discussions, reference reading, laboratory work, and preparation of themes all call for somewhat different practices, though the essential features of good notes should characterize all of them.

The use of shorthand in note taking is usually undesirable. Too copious notes are likely to be made, and there is danger of the process becoming automatic and losing its evaluating

features. Time is also lost in transcribing and copying the notes, or they soon become fairly useless.

Notes should seldom be recopied. A little persistent practice will develop sufficient skill to draft notes in permanent form. Wide margins and blank spaces for uncertain items will allow for revision and additions.

Underlining and marginal notes in personal textbooks are aids for thinking and for reviewing, but they do not fit into an organized system of note taking.

Note taking should always be a means to an end, not an end in itself; it should be a servant, not a master, a time saver, not a time waster. It should be a constant stimulus to thought and a means of growth.

IMPROVING YOUR NOTE TAKING

Devise a system of note taking based on your personal needs and the foregoing discussion.

Try it out for a week, and then examine your notes for undesirable features, and try to eliminate these.

Reexamine them until you feel that you have developed a serviceable system of note taking.

SUGGESTED READINGS (see Selected References, pp. 471-483): 23; 91, pp. 212-254; 133, pp. 30-44; 135; 258, pp. 10-12.

THINKING WITH A PURPOSE

For what purposes do we need to think?

Emerson tells us that thought takes men out of servitude into freedom. We have witnessed how scientific thought has freed mankind from many fetters; how it has broken some of the shackles of fear and superstition that kept men from using their powers to learn new truths, how it has removed barriers of time and space, thus opening up the whole world for our living and the universe for our explorations; how it has placed in our hands the controls of physical forces that have revolutionized our ways of living. The use of this scientific knowledge has given relief from toil and pain, has improved health, has increased the average life span, and has produced incalculable wealth; innumerable comforts, toys, and gadgets; and utter misery and destruction in warfare. The perennial question whether or not the machine will enslave mankind has been eclipsed by the question if atomic energy will ultimately destroy him.

The answer lies in man's power to control the use of scientific knowledge. The problems entailed differ markedly from those in the material realm, for they involve human beings whose motives, thoughts, and actions cannot be fully predicted. Also, their solution depends upon the *interplay* of partially unpredictable human beings, and this increases still further the uncertainties of the outcomes of thought and planning. The attitudes and methods of science are needed in this problem solving as far as they will apply. Beyond this point comes the need for resolving varied and conflicting interests, for welding common purposes, and for creating unique plans of action suited to the new situation. Neither our personal nor our social problems can be solved by the simple application of rules or principles. We must develop skill through much practice in grappling with the knowable and unknowable factors in

situations that present alternatives of action. Understanding and proper use of thought processes are essential to sound thinking. The reward is freedom to build our lives purposefully.

What is effective thinking?

An eight-year-old imbecile who came to the writer's attention could name the capital of any state in the Union when the state was named, but she understood nothing of what the information meant and had the mentality of a four-year-old child. The information acquired by a college student is as useless as this stock of names unless it becomes an integral part of his experience and is used in thinking clearly about significant problems. Montaigne, in discoursing upon the futility of undigested and borrowed knowledge, says:

We labor but to cram our memory, and leave the understanding and the conscience empty. Even as the birds sometimes fly in search of grain and bring it in their beaks without tasting it to feed their young, so do our pedants go picking knowledge out of books, carrying it at the end of their lips, only to spit it out and scatter it to the winds.

Thinking is a natural process such as observing, remembering, and imagining. It utilizes all these mental processes and, like them, is subject to many errors and may be improved with training.

What are the various forms of thinking?

A penny for my thoughts on that hot August afternoon as I drove down the coast highway. As I make an attempt to recall, a succession of pictures and irrelevant ideas flits hazily through my mind—a winding path through the redwood forest, the ruins of an old mill by a mountain stream, fragments of a conversation, an amusing incident, and the clear starlight in the quiet forest. The stream of memories is interrupted by the sense of physical discomfort due to the heat or by the landscape that gains my attention. A hogback formation in the hills takes me back many years in memory: The dry, brown hogback becomes covered with trees and flowers, and I see myself

with a basket gathering hepaticas and violets. An ugly little schoolhouse starts a trend of recollections about my first teaching experience, which eventuates in the recall of work that had remained untouched. The unpleasant feeling aroused by this memory is soon dispersed by the thought, "Well, I needed the rest; anyway one shouldn't work in vacation time. I shall probably do it much better when I am back home in my study."

A glance at the speedometer, and the pressure of my foot on the accelerator lightens a trifle; a whirring noise for a moment under the right-hand side of the hood, and the reproachful thought presents itself that I had forgotten to have the generator examined before starting back, followed almost at once by the reply, "It's much better to wait until the mechanic who usually looks after the car can attend to it; a strange mechanic along the road is often careless." Several unfortunate experiences of this sort are recalled to reassure me that I had not been negligent about the matter. A grove of eucalyptus trees is passed, and once more I am back in my college days, thinking of late afternoon walks in the arboretum on the college campus.

Suddenly, however, all reminiscences are rudely banished by the realization that a car coming from the opposite direction is careening across the road directly in my path. A steep bank on my right and inability to stop in time are the only factors in the situation of which I am aware for an instant. A quick turn to the left, together with the application of brakes, brings the car to a stop parallel with the other car and without an inch to spare between them. Luckily no car is coming from the rear, and an accident is avoided. In a short time I am again engaged in casual observation of the familiar landscape, reverie, and occasional thoughts about a problem to be attacked on my return to work.

This fragmentary description of my thoughts on that afternoon is the result of both intentional and unintentional inclusion of incidents and ideas chosen to illustrate common types of thinking that could be duplicated in anyone's experience with a little introspection. Among those omitted are, undoubtedly, many thoughts that I should hesitate to write down for others to see   James Harvey Robinson says

When we are offered a penny for our thoughts, we always find that we have recently had so many things in mind that we can easily make a selection which will not compromise us too nakedly. On inspection, we shall find that even if we are not downright ashamed of a great part of our spontaneous thinking, it is far too intimate, personal, ignoble, or trivial to permit us to reveal more than a small part of it. I believe this to be true of everyone. We do not, of course, know what goes on in other people's heads. They tell us very little and we tell them very little. . . . We find it hard to believe that other people's thoughts are as silly as our own, but they probably are (190, p. 37).*

Robinson distinguishes four main types of thought—reverie, rationalization, snap judgments, and creative thought. The first three are illustrated above.

Reverie. When we are not interrupted by a practical issue, such as the avoidance of the car in the incident described, or when we are not consciously trying to direct our thinking for a specific purpose, we are engaging in what is called reverie. Studies of this reverie, or "free association of ideas," show that it is almost invariably centered about one's ego and tends toward self-magnification and self-justification. It is one index to our real character and exercises an influence over our entire mental life. The fact that so much of it is silly and worthless does not mean that we should try to eliminate it altogether. Daydreams are the source of many of our finest aspirations and inspirations. The stories of Newton and the falling apple, Watt lazily watching the steam issue from his mother's kettle, and Galileo observing the swaying lamps in the cathedral indicate how reverie may eventuate in discoveries of profound importance. Unless these inspirations had been carried beyond the reverie stage, however, and subjected to rigidly controlled experimentation, we should never have had our steam engines, dynamos, and pendulum clocks. A girl may daydream about her successes as a great musical artist, or a boy about his marvelous achievements as an architect; but unless these dreams lead to greater effort in practice and study, they will afford only momentary pleasure.

* Reprinted from *The Mind in the Making,* by permission of Harper & Brothers, Publishers, New York and London.

How do you talk to yourself? Herein lies the key to many of your attitudes and achievements. Daydreaming about fancied accomplishments may become so satisfying that it substitutes for real achievement, stultifies effort, and blinds one to realities. Carried to excess, daydreaming may even cause one to be cut off from the real world and to live in the realm of fantasy. Such is the case when a mentally sick individual thinks himself to be God. Continuous brooding over deficiencies may result in a lack of self-confidence and may be as disastrous as the self-magnifying sort of reverie, since it may deprive one of courage needed for achievement. The control of reverie affords great possibilities for self-improvement and self-direction.

Exercise in Introspection

Observe your uncontrolled reveries for several days, noting the trend of their content. What do they reveal to you about yourself? In what ways would it seem desirable to control or change them?

Rationalization, or defense thinking. Illustrations of this type of thinking are to be found in the excuses for not doing the work that the writer intended to do during vacation and for not having the car inspected. It is damaging to our self-esteem (and therefore unpleasant) to admit that we have been negligent, thoughtless, or in error, and hence we often become proficient in finding "good" reasons for our shortcomings. This inclination applies not only to our conduct but to possessions, beliefs, and everything that has value because of its relation to ourselves, and a derogatory implication regarding any of them may arouse undue emotional disturbance.

We justify the purchase of a new car on the grounds of economy when the real reason may be a desire for greater comfort or social approval. On the other hand, we may take the sour-grapes attitude toward what we really desire but for some reason cannot have. The inferior student who distinguishes himself in athletics or social affairs may look with disdain upon the "greasy grind," and the unattractive or unpopular girl who shines in her studies may assume a superior attitude toward the frivolities of her classmates.

Projecting the cause of a difficulty on another person or on an object or circumstance beyond our control is another form of rationalization.   The instructor has a grudge against us; the examination questions were unfair; the coach "has it in" for the boy who does not make the team; there was something the matter with the racket or baseball bat when we made a bad play; we may even rail at the chair that we stumble over in the dark.

We may assume the Pollyanna attitude and claim that everything is fine when a bad situation arises or at least conclude that we should be thankful because it is not worse.   This attitude also prevents a person from facing reality and coming to grips with his problem.

ANALYSIS OF YOUR RATIONALIZATIONS

Make a list of the explanations or reasons that you have given for opinions or actions during a day.   Try to discover which of them are based on known facts, which exonerate you from any blame or criticism, which fit in with your settled ways of doing and thinking, which enhance your sense of importance.

Snap judgments.   At times it is necessary to make quick judgments, and we cannot always make them on the basis of all the factors concerned.   The incident cited at the beginning of the chapter exemplifies this type of thinking.   Had I waited to see if a car was coming from the rear before deciding to turn sharply across the road, I should probably have hit the car in front; if another car had been close behind me, it would undoubtedly have hit mine.   In playing tennis we cannot wait to see just where and how fast our opponent returns the ball before taking a position to receive it, but we can familiarize ourselves with his habits and be guided somewhat by them.   It is always necessary, however, to provide for snap judgments based on unexpected plays.   The same principle holds true in all activities that call for quick judgment.   The habit of considering all possible factors that time permits improves the quality of these judgments and helps to prevent the practice of forming snap judgments on the basis of partial evidence when the exigencies of a situation do not demand it.   One of

the dangers of this common but unjustifiable habit is that after we have reached a conclusion, the sanctity of ownership may become attached to it and prevent us from seeing and weighing new evidence that might cause us to change our minds.

Uncritical attitudes and beliefs. How many of our beliefs and opinions around which we shed the halo of our emotions could stand the scrutiny of cold logic based upon facts? Examine your opinions as to the truth, falsity, or questionable accuracy of the following statements: Slow workers are more accurate than fast workers. Women are less mechanically inclined than men. There will always be poverty in any social system. Those who work should not be taxed to provide for those who are out of work. The white race is superior in most respects to all other races. War is inevitable because it is natural for people to fight. Medical services should be provided for under governmental control. Which of these statements seem to you to be self-evident truths or falsities? Concerning which ones do you have sufficient facts to draw sound conclusions? Concerning which ones do you have an emotional bias that might prevent you from weighing conflicting evidence impartially? Do you know the sources of any of these emotionalized attitudes?

As children we grow up in a world of adults where we acquire many prevailing attitudes and opinions uncritically. These come to seem so axiomatic or self-evident that we wonder how anyone can believe otherwise. When these beliefs are challenged, we seek reasons for cherishing them instead of searching for facts.

The power of words. Words, as symbols of experience, exert a profound influence upon our feelings, thoughts, and actions. We are frequently unaware of this influence because we have acquired the use of many words uncritically before we have experienced the realities for which they are symbols. Much of our distortion of reality comes about in this manner.

General Semantics is a movement to establish a system of thought designed to release individuals from the authoritarian grip of language symbols. Korzybski, a leader in the movement, believes that our verbal methods of education do serious damage to growing children. He stresses the importance of providing the child with personal experience in his physical

and social environment before words describing or attaching values to events and objects are brought into his experience. When word symbols such as good, love, hate, honesty, sin, and fear are learned before their attributes can be inferred from actual experience, they may become associated with specific and inappropriate infantile reactions and prevent growth in our understanding of their possible meanings. Thought is thus brought under the control of automatic, infantile reactions. Rational behavior involves the control of these automatic responses and the choice of action on the basis of growing, realistic value systems.

Through an early conditioning process, a word symbol may come to stand for only a part of an object or experience, or it may be extended to include much more. The child may also identify the symbol with the thing itself and fail to distinguish between the two. For example, experiences associated with the symbols "mother," "father," or "teacher" at any particular time may carry over and affect reactions to these same people under very different circumstances or may influence reactions to other people with similar attributes. A child may develop fear or hatred of his father due to certain experiences, then identify "father" with all men or with those exercising authority over him and come to fear or hate all these people without cause.

Korzybski emphasizes the need for our "dating" each event or experience as we abstract meaning from it, thus preventing ourselves from confusing or identifying similar but different experiences. When we realize that all people including ourselves are in a continuous process of growth and change, we may free ourselves from the tyranny of emotionally tinged words that we have carried over from past experience and are applying inappropriately to later experiences. Much hate, fear, suspicion, disillusionment, prejudice, and misinformation can be wiped out through this change in thinking.*

Another important source of bias is the common tendency toward an "either-or" attitude. We may judge a person, object, event, or idea as either good or bad, desirable or undesirable, whereas in most cases the truth probably lies some-

* See Selected References, pp 471–483, Nos. 48 and 136

where between these two extremes. We may ascribe all admirable qualities to a beloved friend, fail to see his natural human shortcomings, and perhaps arrive at unhappy disillusionment when some weakness is forced upon our attention. We may attach ourselves to a cause that we idealize so completely that any opposition may seem to take on all the attributes of a devil. These are essentially infantile attitudes which, if carried over into adult life, prevent us from developing mature discriminations of any high order.

Personal Inventory

List some of your outstanding opinions or beliefs about economic, social, political, religious, or other human concerns. Analyze these to try to discover which are based on known facts; which ones prevail among your associates; which ones you may have acquired as a result of very early influence; which are personally pleasing or satisfying. Can you detect any inconsistencies in your opinions on various issues or problems?

List some of your strong likes, dislikes, fears, and hatreds, and see how many you can trace back to their sources in earlier experiences. Try to recall recent circumstances in which your behavior has been influenced by these emotionalized attitudes. Analyze each of these circumstances, in so far as your memory allows, to see if you can detect inappropriateness in your behavior in the light of the total situation.

Scientific and creative thought. When I awoke about five o'clock one morning, I became aware of a metallic tap, tap, tap somewhere outside near my window. I listened for a time and decided that it sounded like water dropping from the eaves of the house on to a drainpipe below. It was light enough to see that there was no apparent evidence of rain during the night. Had I been unfamiliar with California's evanescent fogs, I might have wondered if at last I was in the presence of a ghostly phenomenon. Since I was not sufficiently imbued with curiosity to go outside and investigate, I had to remain content with the unproved hypothesis of the deposited moisture on the roof from a dissipated fog as the cause of the monotonous sound. When the morning paper was brought in later, its wrinkled outside sheets gave the first visual evidence to support my hypothesis. The actual evidence at hand, including my

memories of past fogs, was insufficient, however, to warrant a decisive conclusion.

Many words about a trivial matter, you may say. I agree with you. But how many profound convictions about improbable truths have resulted from even less evidence and the flight of an uncontrolled imagination? The primitive savage notes a frightening natural phenomenon, such as an earthquake, occurring simultaneously with the advent of a stranger; he assumes that the latter has caused the former and perhaps kills the stranger. Again he may assume that the earthquake is the attempt of a god to punish him for his misdeeds, and he therefore tries to propitiate the god. He may think of all inanimate objects as inhabited by spirits and ascribe magical powers to them. Thorndike made a comprehensive study of magic and early experimental science. He recounts how in Pliny's time it was believed that certain diseases could be transferred to animals by holding them against the affected parts or by spitting into their mouths and that the carrying or wearing of amulets would cure or ward off disease.* Studies of recent years indicate the wide prevalence today of superstitious beliefs and practices. Thorndike emphasizes the fact that primitive man thinks no differently from modern man—he merely lacks the knowledge upon which to base his thinking. The logic of Aristotle and later medieval logicians was as exacting as our own, but the assumptions upon which their reasoning was based were untested and oftentimes false. Important contributions of recent centuries to our thinking have been the development of instruments and techniques for the more accurate observation and recording of phenomena. The method used by scientists today in their search for truth has been summarized by some of them as follows:

The scientific method of research.

1. *Gather data* on the problem or within a selected field according to some adequate, sound plan by means of numerous and accurate observations made with the human senses, assisted and corrected by instruments of precision. The observations are usually with a well-defined purpose, but sometimes for information according to oppor-

* Thorndike, Lynn, *History of Magic and Experimental Science,* New York, Columbia University Press, 1934, p. 88

tunity.   Observations must be recorded in definite terms and measurements and in specific statements.   Many observers may collaborate in gathering data.

2. *Classify and organize data* on the basis of similarities, variations, activities, processes, causes, results.   Distinguish between essential and superficial characters.

3. *Generalize* to get principles and theories into tentative form. Use constructive imagination, discernment, known principles to formulate reasonable generalizations that solve the problem or explain the known facts in the selected field.   Many researchers accept a mass of classified data and verified generalizations and then proceed to solve some problem by formulating hypotheses thereon and verifying these, without including general gathering of data and classification work.

4. *Verify* generalizations by controlled experiments, by tested predictions of results, by repetition of experiments, and the gathering of additional data. . . . Determine sources of error in method and apparatus, and evaluate by auxiliary investigation.   State all assumptions and include them in the conclusions.

5 *Report* the research in full, and subject results to criticism and verification by others competent to collaborate.

6. *Announce* the results of the research to the general public for practical use.*

The scientific attitude.   The attitude of the scientist as he approaches his task and views his conclusions is quite as important as the method by which he gathers his data and reaches his conclusions.   The scientific attitude involves the following characteristics · *natural curiosity* that urges the scientist on in a restless but controlled search for new facts; *impartiality and breadth of view* that prevent personal interest or bias on the part of the truth seeker with respect to findings and that ensure an open mind for all facts that may be pertinent to the problem; *persistence and industry* in exploring the inexhaustible sources of new truth, and *accuracy* in observing and recording findings; *fruitful skepticism* that avoids pessimism regarding the elusiveness of truth but that provides the necessary antidote for too eager theorizing; *humility and tolerance* in the light of the magnitude of the unknown and the difficulties

* *The Scientific Method in Research,* compiled, by advice of some hundred scientists, by Milton Fairchild, chairman for the Character Education Institution, Washington, D C., National Capital Press, Washington, D. C.

of interpreting the known; *fearlessness* as to what may be discovered and *loyalty* to tested truth; *an open mind* for new truths that may augment or overthrow existing theories.

Creative thinking. A psychologist has stated that "productive thought, especially its technique and process, constitutes an island in the sea of psychological lore. Those who have sailed near it," he says, "come away with tales of its rugged inaccessibility" (121, p. 392). There are but few research studies that throw any light on its inherent nature, but much scattered information in philosophy, biography, and literature gives clues as to the process.

Graham Wallas (246) has suggested four steps that he believes occur in creative thinking:

1. Preparation   the stage of hard, conscious systematic analysis of the problem and accumulation of knowledge.
2 Incubation· the stage of rest from any conscious thought about the problem.
3. Illumination. the time when the "happy idea" flashes upon one.
4. Verification: a stage like the first of conscious control of laborious, critical processes and any special techniques required by the particular art or science.

In an inquiry among fifty-five contemporary lyric poets and fifty pictorial artists Patrick found this four-stage creative process to be typical, though the responses indicated that the "idea" is not entirely absent from conscious thought during the incubation period but recurs from time to time (257, p 821).

Replies to a questionnaire sent out by the education department of the American Chemical Society suggest that scientists are more like artists in their insights, "hunches," and flashes of genius than is popularly supposed (121). Von Helmholtz, brilliant inventor and discoverer in several scientific fields, has offered the following interesting testimony regarding his methods of work on original problems·

I must say that those fields of work have become ever more agreeable to me in which one need not depend on lucky accidents and "happy thoughts." But as I have found myself pretty often in the uncomfortable position of having to wait for happy thoughts, the

experience I have gained on the question, when and where they
came to me, may perhaps be useful to others.   Often enough they
crept quietly into my thinking without my suspecting their impor-
tance at first; and then it was often impossible later on to recall
under what circumstances they had come, they were simply there
and that was all I could say.   But in other cases they arrived sud-
denly, without any effort on my part, like an inspiration.   So far
as my experience goes, they never came to a fatigued brain and
never at the writing desk.   It was always necessary, first of all,
that I should have turned my problem over on all sides to such an
extent that I had all its angles and complexities "in my head" and
could run through them freely without writing.   To bring the matter
to that point is usually impossible without long preliminary labor.
Then, after the fatigue resulting from this labor had passed away,
there must come an hour of complete physical freshness and quiet
well-being, before the good ideas arrived.   Often they were there in
the morning when I awoke, just according to Goethe's oft-cited
verses, and as Gauss also once noted.   But they liked specially to
make their appearance while I was taking an easy walk over wooded
hills in sunny weather.   The smallest amount of alcohol seemed to
frighten them away (257, p. 816).

Problem solving.   Many of the problems that arise in daily
living and in human relationships call for somewhat different
methods of thinking from those described for the scientist and
the artist.   The following steps are usually included in the
problem-solving type of thinking:

1. A felt difficulty.
2. Its location and definition.
3. The assembling of all pertinent facts.
4. Analysis of the problem in the light of these facts.
5. Suggestions of possible solutions.
6. Reasoning as to the bearings of each solution on the
   problem.
7. Further observation and experimentation with suggested
   solutions leading to acceptance or rejection.*

To illustrate, let us suppose that a group of student leaders
and faculty members on your campus are studying a problem
of interracial cooperation that has become a *felt difficulty* be-

* Adapted from Dewey, John, *How We Think.*

cause of apparent discrimination against certain groups in social affairs. The next step may involve a critical examination of the situation. For example, are the seeming discriminations localized among a few individuals or groups, or are they widespread? Are they due to actual prejudice, or have certain groups been identified with objectionable attitudes or conduct of a few persons?

Assuming that the problem has been defined as one of racial discrimination, but *localized* among certain socially active members of the student body, the next logical step would be that of *assembling facts* regarding sources of prejudices. At this point the study could draw upon anthropology, psychology, history, sociology, and numerous other areas as well as first-hand observation of the college community and knowledge of the contemporary world. Realistic *solutions* or programs of action formulated by the committee will grow out of an *analysis* of the problem in the light of available data. They will square with the known facts and with understanding of the individuals who will participate in the chosen program; also, they will harmonize with the democratic ideals of the college. The sixth step provides opportunity for *checking* upon all these aspects of suggested plans. *Observation and frequent evaluation* of the program in action will provide the necessary information about progress in the solution of the problem and may indicate desired changes in methods or plans.

Any group working on some phase of this fundamental human problem will recognize that scientific facts as to racial equality and historical background will not, by themselves, eliminate blind prejudice and bigotry. They will face the problem of freeing individuals from immature attitudes and behavior through unselfish cooperative endeavor, and they will not expect instantaneous results. However, all enlightened adults will be aware of the urgency of solutions for all our problems related to human cooperation and world peace.

In solving any problem one must know where and how to secure the relevant facts, to judge the best sources of authority for these facts, and to use resourcefulness in experimenting with their application. Controlled imagination is as important here as in strictly scientific or creative thinking.

These three methods of thinking—scientific, creative, and problem solving—do not involve radically different mental processes. Much the same processes are characteristic of each. The differences are largely those of degree and purpose.

How can we apply sound methods of thinking in study and in everyday living?

We cannot all be scientists in the sense of adding to the store of scientific truth, but we can all become human engineers by attempting to apply scientific truth in our specific work and in our daily living and by utilizing the methods of sound thinking in our own thought processes. For this purpose the attitudes of the scientist are perhaps more important for us to master than his specialized techniques, though it is essential to understand the latter in order to know whom and what to trust. Let us consider ways in which we may become more scientific and creative in our thinking.

Improving and extending our observations. Every day human experience and the nature of evidence submitted in law courts attest to the widespread inaccuracy of much of our observation. When we are aware of the difficulties of accurate and comprehensive observation, we can improve our own observation by training and self-appraisal. Dimnet reports in his book *The Art of Thinking* (67) how Cazin, the son of a famous French painter and himself an artist of note, was taken by his father on rambles through the country. He describes how every now and then the two men would stop to observe the landscape for a few minutes and then, turning their backs, would test each other's recollection of what they had seen. The older man's extraordinary capacity for observing and remembering would often enable him to recall clearly, after months, half tints indistinguishable to the average vision. Practice in the careful, critical observation of environment, associates, and events will soon reveal a multitude of things that we have failed to notice. The same training applied to study or leisure-time reading will yield similar results. In laboratory science this training is essential.

Of course, we cannot and should not observe everything. We need to select and define our fields of observation like the scientist, and we do this through developing our interests. Wide

interests and a rich store of accurate, well-organized informa-
tion are foundations for sound, useful thinking. We must also
expect and allow for a certain amount of error in our observa-
tion.

Classifying our observations. There are two main steps in
this process.

Analysis. This involves breaking up a situation into essen-
tial parts. In the problem of racial discrimination it was im-
portant to note that the undesirable practices were confined
to a relatively small and socially active group in the student
body. An assumption of widespread attitudes of prejudice
within the student community might have hindered the develop-
ment of a practical solution.

Synthesis. The next step is to fit isolated facts back into
their logical relationships. Here differences, similarities, and
relationships are noted, and those elements which seem to belong
together are so grouped. The elements are then ready to be
studied with the goal of drawing any warranted conclusions.
A danger at this step is that of bringing together factors that
are related in time, place, or some other manner but that have
no cause-and-effect relationship. Some examples of this error
in thinking have already been noted in citing instances of prim-
itive thinking.*

The college student, delving as he does into many fields of
study in the college curriculum, has an opportunity to note the
bearings of information and theories in many fields on signifi-
cant human problems and to gain practice in attempting to
synthesize this information in his thinking.

Making generalizations. One important result of education
should be the increased ability to evaluate proof regarding
matters of human concern, to interpret data correctly, and to
recognize sound and unsound reasoning and conclusions. It
would be impossible within the limits of this chapter to deal
with the laws and principles of logic which are to thinking what
grammar is to speaking and writing. We shall consider only a
few crucial aspects of logical thinking.†

* See p. 211.

† References are given at the end of this chapter for those who wish to
delve into logic.

TABLE III—AVERAGE HEIGHT, WEIGHT, AND AGE OF FRESHMEN
AT THE UNIVERSITY OF CINCINNATI, 1916–1935*

Year examined	Men				Women			
	Number measured	Age in years	Height	Weight	Number measured	Age in years	Height	Weight
1916–1917	150	19 45	67 45	132 05	153	18 87	62 93	119 00
1917–1918	172	19 02	67 97	135 00	126	18 98	62 98	118 63
1918–1919	54	18 42	67 25	121 68	136	18 93	62 60	114 63
1919–1920	272	19 72	67 90	134 65	128	18 54	63 12	119 32
1920–1921	593	19 53	67 99	135 15	192	18 49	62 95	120 09
1921–1922	489	19 16	68 09	136 66	206	18 33	62 59	118 56
1922–1923	472	19 20	68 17	135 92	178	18 47	62 95	122 06
1923–1924	480	19 31	68 24	136 78	191	18 62	63 13	119 34
1924–1925	581	19 25	68 23	137 18	212	18 66	62 83	117 45
1925–1926	599	19 27	68 46	137 92	59	19 12	63 76	121 47
1926–1927	566	19 11	68 32	137 60	246	18 97	63 93	122 66
1927–1928	641	19 30	68 23	139 36	174	18 56	63 42	121 46
1928–1929	607	19 31	68 44	138 16	108	18 53	63 69	119 81
1929–1930	434	19 42	68 66	140 94	102	19.03	63 47	118 47
1930–1931	815	19 16	68 44	139 89	306	18.55	63 73	122 47
1931–1932	503	18 97	68 62	141 25	321	18 44	63 60	119 41
1932–1933	313	18 75	69 00	142 29	262	18 60	63 74	118 55
1933–1934	381	18 90	69 14	149 07	310	18 65	64 21	121 36
1934–1935	390	18 77	69 14	143 41	383	18 44	63 73	121 80
1935–1936	456	18 83	69 23	141 79	331	18 60	63 72	120 88

*From Chenowith, L B "Height, Weight and Age of Freshmen," *Journal of the American Medical Association*, 108 354, Jan. 30, 1937.

Interpreting data. Deducing valid inferences from data is an exacting process and an important one if our thinking is to have any value. Some of the difficulties in this process are revealed in the problem presented here. What inferences can you draw from the following data?

EXERCISE IN LOGICAL INFERENCE

From 1916 to 1935 the height, weight, and age of men and women entering the University of Cincinnati were averaged each year. Figures in the table refer to these data secured from 8,934 men and 4,124 women. The yearly averages were shown on Table III.

Read the statements below that are suggested as possible interpretations of the data, and, assuming that the data are accurate, indicate by the appropriate number whether or not you think that the evidence presented

1. Is sufficient to make the statement true.
2. Is sufficient to make the statement false.
3. Suggests that the statement is probably true.
4. Suggests that the statement is probably false.
5. Is insufficient to make possible a decision concerning the statement.*

A. Freshmen students at the University of Cincinnati in 1935-1936 tend on the average to be taller and heavier than in 1916-1917, in spite of their lower average age.

B. There have been no exceptions to these trends in average height, weight, and age during the period covered by the data.

C. The men show greater average gains in height and weight and greater average reduction in age during the period covered by the data than do the women.

D. The probable average height and weight of freshmen at this university in 1936-1937 were greater than in 1920-1921.

E. The average age of freshmen women at this university in 1939-1940 will probably be higher than that of entering men.

F. Freshmen at this university in 1935-1936 tended to be better nourished on the average than those in 1916-1917.

G. Freshmen students at this university in 1935-1936 had fewer physical handicaps and illnesses than did those of earlier years.

H. The parents of the 1935-1936 freshmen are probably younger, taller, and heavier on the average than are those of the 1916-1917 group.

I. The physical status of the 1935-1936 freshmen is probably due to better nutrition in infancy and childhood and fewer communicable diseases.

J. Fifty per cent of the students are heavier, and 50 per cent lighter than the average weights computed for each group.

    K. The average height and weight of all college students in the United States have been increasing during the past 20 years.

    L. The standard of living in the homes of the 1935-1936 freshmen was higher than that of the 1916-1917 freshmen.

    M. The average height and weight of all adolescents in the United States have been increasing during the past twenty years.

    N. The source and the place of publication of these data would favor their validity and reliability.

After you have appraised these statements according to the five code numbers described above, compare them letter for letter with the fourteen statements in the footnote below.*

    * Valid Inferences·

    A. The interpretation can be made from the data without qualification.

    B. The interpretation is definitely contradicted by the data

    C. The interpretation involves a calculation that can be made directly from the data and can therefore be supported or contradicted, depending upon the accuracy of the calculation

    D The interpretation goes beyond the data but is in agreement with the trend and might be qualified as "probably true"

    E. The interpretation goes beyond the data, is contrary to the trend revealed, and might be qualified as "probably false"

    F. The interpretation refers to a point that lies within the data but not specifically described and might be qualified as "probably true" or "probably false," depending upon whether it does or does not agree with the revealed trend

    G. The interpretation goes beyond the data in assuming that things, conditions, processes, etc , that are alike in some ways are alike in others and must be qualified as based upon "insufficient evidence "

    H The interpretation assumes the presence of a plan or purpose not specified in the data and must be qualified as based upon "insufficient evidence "

    I. The interpretation assigns a "cause" to the relationships revealed by the data and, when not supported by other evidence, must be qualified as being based upon "insufficient evidence "

    J. The interpretation involves an ambiguous use or a misuse of a term in the data and must be qualified   The use of the term "median" instead of "average" would make the statement correct.

    K. The interpretation assumes that what is true of a single case or of a few cases is true of all cases and must be qualified as based upon "insufficient evidence."

    L. The interpretation involves a personal judgment—sometimes biased, at other times unbiased—that is external to the data and must be qualified

What difficulties, if any, has this exercise revealed with respect to your ability in interpreting data?   Check the statements below that best describe your initial judgments concerning the interpretative statements:

1. Recognized *true* statements as *true, false,* as *false.*
2. Tended to be overcautious.
3. Tended to go beyond the facts.
4. Tended to confuse the "probably true" and "probably false."
5. Tended to make wide errors in judgment, judging statements as being "true" or "false" when the data supported an opposite direction.*

Do you think that your tendencies in this exercise are characteristic of your usual tendencies in interpreting data?   If difficulties were revealed, watch yourself in these respects.

Patterns of thought.   Three main ways of reaching generalizations have been called by Joseph Jastrow "patterns of thought." †   He refers to them as generalizing, explaining, and applying.   In describing these patterns he uses the three terms *result, case,* and *rule.*   An example of a *result* could be one's observations as to weight in handling different metals; a *case* would be represented by each metal handled, and a *rule* would be a statement about the characteristics of metals in general; *e.g.,* metals are generally heavy.

The first thought pattern—generalizing—for which the technical name is induction, would start with result and case as based upon "insufficient evidence" unless supplementary data are introduced.

M. The interpretation represents a universal generalization, concerning which the data presented serve only as a single illustration, and must, therefore, be qualified as based upon "insufficient evidence"

N. The interpretation assumes that the data are valid and reliable and in the absence of any information relevant to those points must be qualified as based upon "insufficient evidence."   Where incomplete but partial information is available, the interpretation must be qualified as "probably true" or "probably false," depending upon the circumstances.

Ibid, pp. 93-95; used by permission of the National Society for the Study of Education.

* *Ibid ,* p. 97.

† Jastrow has simplified a scheme used by C S Pierce, first published in 1878, republished in *Chance, Love, and Logic,* 1923.   Some of the examples used here are adapted from Joseph Jastrow, *Effective Thinking,* New York, Simon and Schuster, Inc , 1931, Chap. II.

given, from which a rule is inferred. You would infer the rule that metals are heavy by observing the results of handling different metals, each metal being a case. The second pattern —explaining or hypothesis—starts with result and rule given, from which the case is inferred. Starting with the rule that metals are heavy and with the observed results of handling, say, iron, you explain the case, iron, on the basis that it is heavy because it is metal. With the third pattern of thought —applying or deduction—the case and rule are given, and the result is inferred. Let us take aluminum as the case, consider the rule that metals are heavy, and infer the result! Therefore aluminum is heavy? The next desirable step would, of course, be to verify the conclusion by lifting an empty aluminum teakettle and comparing its weight with one the same size made of copper.

The incorrect conclusion reached by the third method illustrates the danger of fallacy in making generalizations. It reveals the need for adequate data as the raw material for thought and also shows how an inadequate assumption at the start may vitiate the whole thought process.

Verification. The need for verification of the products of our thinking is illustrated in the erroneous conclusion about aluminum The pragmatic test, Does it work? Does it check with experience? Is it in harmony with tested truth? should be applied to every result of thought.

Many of our judgments must of necessity be tentative, at least for a time, because of the limits of our knowledge. We cannot wait for the results of scientific research in many fields of human activity where choice and action are necessary for living. It may be that science will never penetrate into some realms of life. But where it does, the intelligent person will utilize tested truth in his thinking and will reconstruct his judgments and opinions in the light of new scientific truths as they are discovered.

Attitudes that aid effective thinking.

Alertness and active curiosity. The intellectually complacent person lets much that is vital in life pass by him without notice Sound thinking demands a rich background of interests and information, and this background can be developed and maintained only by the person who is curious about

life, who is constantly reaching out for new truths and using them in reconstructing his thoughts. The most desirable curiosity is not the random sort displayed by the young child or the idle curiosity of the dreamer (though these have their values); neither is it the curiosity of the gossip. It is selective and is controlled and directed by standards of value and a perspective on life that are themselves in a state of wholesome flux and growth.

Impersonal objectivity   The sound thinker must always look at his mental processes and opinions as objectively as he can those of another person. A possessive love for the offspring of one's mind is as fatal to the thinker as to the scientist. It stultifies thinking just as an unwise parent love hampers the growth of children. Both thoughts and children need loving care but not of the sort that prevents their trying out their own powers. Our thoughts, like fledglings, sometimes need to be forced out of the nest and taught to fly; and if they do not come back, the nest can be filled with a new brood

A joy in thinking for its own sake as well as for its utilitarian value. The idea has been emphasized previously that we tend to do our best in those activities which we enjoy. Aside from this aspect, there is a sheer joy in mental activity that few other experiences can equal. Truman L Kelley states in his *Teacher's Credo,* "As every problem has a richer content if solved through reasoning than through memory, I shall not be content with solutions involving the lesser vision, when the greater is possible."

Like everything else worth while, abstract thinking has its dangers as well as its joys. If over-indulged in it may sometimes cause one to feel compelled to solve the problems of the universe; it thus becomes an escape from living instead of a means to richer living.

The willingness to suspend judgment. Many individuals feel the need for reaching definite conclusions on all questions confronting them. They must and usually do have definite opinions on all matters that come within the scope of their minds. This craving for certainty and for the dogmatic statement of truth is particularly characteristic of children. The common desire for definiteness is antagonistic to scientific thinking, since

the latter demands the withholding of judgment until sufficient data can be secured and there is time for deliberation.

Voltaire once wrote, "None but the charlatan is certain—doubt is not agreeable, but a positive assurance is ridiculous." We must have a fair degree of assurance about many things to live effectively, but it is wholesome and stimulating to hold some judgments in abeyance and say with Protagoras, the Greek sophist, "Let us assert nothing, let us deny nothing, let us wait."

What are some of the hindrances to effective thinking?

Even with a sincere desire to think soundly, there are many obstacles to be overcome. We shall consider a few of the most widespread and pernicious.

Convictions, prejudices, and settled habits of thinking. We develop habits of thinking as well as doing, and one of these habits most antagonistic to the scientific spirit is that of settled convictions and beliefs. No new truth can enter a mind with this habit. Attitudes become habits, and one of these habitual attitudes that acts as a great hindrance to an open mind is that of emphasizing the importance of old attitudes and distrusting the new because it is new.

We may accept an opposing point of view intellectually yet remain emotionally prejudiced. Our numerous racial and social prejudices are acquired in the same way that we acquire other likes and dislikes. We often cling to them as intolerantly as the Hindu worshiper of a mythological god who is reputed to have attached to his ears bells that he rang by shaking his head vigorously when anyone spoke in praise of another god so that he need not hear the words.

Self-centeredness. A mind focused on self cannot reach out and encompass the external world of objective reality that furnishes the materials out of which sound thinking is woven. The tendency of the self-centered mind is to spin its web of thought out of the product of its imagination. This mind tends to occupy itself with what is emotionally satisfying rather than with what is vital and significant. The unusual, sensational, or emotionally exciting has a strong appeal, and wishful thinking that results in personally pleasing conclusions tends to predominate. This sort of thinking has been called "thobbing"

by Henshaw Ward who coined the word out of the first two letters of "think" and the first letters of "opinion" and "belief." We "thob," he says, when we think out the opinion that pleases us and then believe it (248). We all do some of this wishful thinking or rationalizing, but the person who is essentially self-centered becomes an easy prey to it.

The influence of the "herd." Traditions, customs, conventions, fads, and fashions mold our minds and determine our ways of thinking and doing in so many subtle ways that we become unaware of their influence. The instinctive desire to conform to the group and to be accepted by the group helps to reinforce them to a point where the questioning of their rightness or value is often looked upon as a sacrilege.

Social habits are as necessary as personal habits and not inherently bad. They form, as it were, the cement of society and represent the crystallized experience of the human race in learning to live together. They become a deterrent to progress only when they prevent freedom of thinking or serve as substitutes for thinking about possibly better ways of adjusting to changed conditions of living

In evaluating the "cake of custom" which impresses its mold on every civilization, one may take the attitude of James Harvey Robinson that the fact that an idea is old should cause us to question its validity or the opposite attitude that the age of an idea represents its survival value through the test of experience. A middle ground might involve the attitude that the old is not useless because it is old nor the new useful because it is new.

Superstition. A list of common superstitions would run into the thousands, and they are the source of many practices that are useless and sometimes even harmful. They are the antithesis of scientific thinking, yet exercise a compelling influence over many minds, and the ignorant are not their only victims. A survey of the prevalence of superstitious beliefs among college students revealed that 82 per cent of them had at one time believed or practiced certain superstitions and that 53 per cent still adhered to some.

The appeal of systems and "isms." Ready-made systems of thought in the form of cults that give the individual formulas to apply in his living and thus obviate the necessity of thinking

make a strong appeal to the timid individual who lacks the courage to face the uncharted seas as the independent thinker must do.

History affords many illustrations of the stultifying effect of systems of thought that have become embedded in the established order of things. Progress in science was retarded for generations by the incorporation into church doctrine of the assumption in the Ptolemaic system of astronomy that the earth was the center of the universe. Persecution or martyrdom was the fate of some who dared to question its truth. Aristotle's pronouncement regarding the influence of the bodily humors, blood, phlegm, black bile, and yellow bile, in causing disease influenced medical thought for 2,000 years and still has its analogues in certain schools of thought today. Impregnable ideas of the fixed and unchangeable nature of species and of the immutability of physical elements have been invaded only in the last century. Authoritarian systems of thought still have a wide appeal in our own times in spite of our supposed scientific temper.

Lack of perspective and a controlled imagination. Trying to think about a problem without perspective is like groping blindly in a maze. Any individual problem has its roots in the past, a fact that is of the utmost significance in visualizing and grappling with the problem in its present status. The next requisite is an imagination that can project ahead and vision unknown possibilities. The greatest pitfall here is an uncontrolled imagination. The scientist in his researches often takes vast leaps in his imagination, but he keeps these leaps under the most rigid control. Even the creative thinker or artist cannot allow his imagination free play but must keep it in harmony with the canons of his art.

INVENTORY OF YOUR THINKING

Make a list of superstitions that you believe or practice; also a list of those which you recall having practiced under certain circumstances even though you do not believe or practice them now. Do you ever have an uncomfortable feeling if you recall but do not practice a certain superstitious belief?

Make a list of desirable attitudes for effective thinking that you possess in a fair degree; also list your undesirable attitudes that

may tend to prevent sound thinking. Consider how you may overcome the latter.

What seem to be your weak points in methods of thinking? Outline a program for trying to overcome them.

Consider how the scientific method of thinking could be used to discover fallacies in the beliefs listed on page 208

Outline steps that you think should be taken in solving the problem of how to control the use of atomic energy. Include suggested solutions and methods of putting them into effect.

SUGGESTED READINGS (see Selected References, pp. 471-483) 12, 48, 121, 127, 136; 170, 172, 237, 246, 218 References on Logic 44, 61, 188

CHAPTER XVI

APPRAISING YOUR PROGRESS

What are the essential conditions for growth?

Attendance at college does not guarantee an education, even when there is satisfactory scholarship. One well-known study of the achievement of college students showed that a group of college juniors made lower scores on tests of certain fundamentals in general education than they had made on the same tests as freshmen. Also, the freshman test records of these students had been superior to those of 72 per cent of the seniors that year in the same institution. Comments in the report of this study are significant for all college students.

All are aware that schools and colleges in themselves are at best mere aids or conveniences, they bring together in one place elements which it is hoped will stimulate and assist a mind in arriving at an understanding of itself and of its environment. Some individuals become thoroughly well educated without schools or colleges, and the process by which they do so with its highly individual motives and attitudes illustrates admirably the procedure that must underlie all education Values that accrue to the individual from his schooling, as from every other source of his mental furniture, accrue solely as his own ability and initiative lead him to accept and appropriate them. . . . *Whatever a man learns he must learn for himself* (143, pp. 4, 44).*

During World War II much effort was directed to the appraisal of educational development accruing through military service and through study under the auspices of the United States Armed Forces Institute. Test batteries were prepared for the purpose of measuring this educational growth in terms of ability to continue in a regular college program. Such tests have proved helpful in the guidance and placement of students

* By permission of the Carnegie Foundation for the Advancement of Teaching.

whose regular education was interrupted by military or other war service. They have yielded evidence of the value of individual responsibility for personal growth.

Self-education requires three basic steps: (1) to set clearly defined goals toward which to work, (2) to appraise what one has already achieved, and (3) to carry out suitable plans for continued growth toward these goals. These three steps cannot be achieved once for all. Growth involves change, and hence education is a process of continuous readjustment. Goals appropriate at one stage may shift and change as a result of new experience. Therefore, we must frequently take the second step of appraising growth and then readjust goals and plans in the light of the new self-knowledge.

The question of college aims or goals has been considered earlier.* It would be helpful at this point to review your conclusions as to your purposes in college in order to have them clearly in mind as we take up the second and third steps in this chapter.

How may we appraise growth?

We shall concentrate here on growth in academic knowledge, skills, and appreciations. The first step in appraisal is to ascertain what we wish to measure. The college student might well begin with the list of general purposes for his college career and supplement this with the specific goals set for each course and activity. If these two lists are set down in parallel columns, it will be possible to draw lines connecting specific goals with major purposes so that their relationships can be more clearly visualized. When you do this, leave space on the right-hand side of the page of your notepaper to enter suggestions for appraising progress toward each goal. Your column headings will then be as follows:

1	2	3
Major purposes in college	Specific goals for courses and activities	Ways of appraising growth

* See pp. 3-16.

State the specific goals in Column 2 as concretely as possible, *e.g.*, skill in athletic sports (specify), ability to express ideas clearly and forcibly in writing, ability to talk well, knowledge about some aspects of life (specify), improved ability in reading and speaking French, impioved laboratory techniques (specify), skill in mathematical reasoning, improved learning techniques (such as reading, use of the library, note taking, or preparation of term reports), leadership in certain activities, etc. It will then be easier to state in Column 3 the ways in which progress may be appraised.

If you have followed suggestions made earlier (see pages 111-113), you will already have dated records in your notebook showing achievement in some of your subjects. These may appear as graphs or tables recording test scoies or marks or may be more informal records of performance in ceitain study skills or lists of books iead   For some of the moie intangible goals, the most significant evidences of growth may be embodied in the products themselves, such as themes, term reports, records of laboratoiy work, or notes on lectures and reading. A time budget may help to reveal improvement in systematic planning.   Brief descriptions of your behavior in certain situations, as in the classroom or social activities, jotted down from time to time may furnish records of growing skill in social or expressive arts and the ability to think clearly under pressure or to exercise intelligent self-control   Each student should devise his own appraisal methods, since they will naturally vary somewhat among individuals.   Three types of appraisal will be considered more in detail, since their use is quite general in colleges · tests and examinations, term reports, and scholarship ratings as in marks.

How can you realize the most value from examinations?

What are the purposes of examinations?   From the viewpoint of their purposes we might classify examinations into two groups: those keyed to specific courses and designed to measure certain types of achievement that have been set as objectives and those which have been prepared to measure information, skills, or appreciations in various broad fields of knowledge. The former are generally prepared by the instructors of specific courses; the latter, by specialists in subject fields and in

test construction. Examinations of this second type are sometimes prepared within a college or university for comprehensive testing of student achievement at certain levels, such as at the end of lower division work or before graduation. Frequently they are developed by a test bureau and have norms based on samplings of students from various institutions. These norms allow comparison of your achievement in a given field with that of other students at a similar stage of schooling. Class examinations can be more specifically adapted to local groups of students, though they are not always so likely to be skillfully constructed. Both types can be helpful in appraising and guiding progress if used aright. Most of the purposes of examinations may be summarized under the following categories

1 *To provide information about an individual.* This information may range from his knowledge and use of specific facts or skills to evidence of his power in using varied materials and processes in a given area of study or work   Such information may be desired for guidance and placement in college or on a job or for building up records of growth and achievement as one basis for determining marks in a course.

2 *To help an individual to learn.* Good preparation for an examination gives opportunity not only for desirable repetition or distribution of practice but also for new insights through the over-all review and reorganization of materials in a broader area than is usually involved in daily study. New points of view, new problems, and new learnings should emerge. The examination itself provides opportunity to use knowledge and skills, often in new circumstances, that helps to fix learnings and make them more flexible.

3. *To help in planning further learning.* A comprehensive review and a good examination should uncover a student's strengths and weaknesses that may point the way to next steps in his learning The best values of examinations are not realized without this careful evaluation and use of what the student and the instructor have learned as to past growth and present needs.

What are the most effective ways of preparing for examinations? There are two important questions here for which the answers may, in some instances, be quite different· (1) What

methods may be used in reaching prevailing standards in a course? (2) What methods will be of value in promoting growth? With your present courses and instructors in mind, examine the list of methods suggested below to see which you would classify under question (1); which under question (2); and which under both.

Which of the following methods seem desirable in preparing for examinations?

Review, organize, and reorganize the materials of study cumulatively throughout the course.

Cram intensively before the test.

Make a brief, vivid review of the high points before the test.

Review old sets of examination questions, if available.

Note the instructor's idiosyncrasies as to point of view, bias, or emphasis in the course, and prepare accordingly.

Memorize key names, dates, and other types of specific information.

Organize and memorize an outline of the work.

Memorize important principles, laws, rules, etc.

Formulate anticipated test questions, and try to answer them.

Make a list of problems or controversial questions.

Formulate statements of the basic viewpoints of the course.

Practice reciting or recalling materials as well as recognizing them in reviewing.

Test your knowledge of technical or new words.

Work alone in your reviewing.

Work with others in reviewing.

Work partly alone and partly with others in reviewing.

Do no reviewing whatever.

Make a very comprehensive review of both major and minor points in the course.

Secure sufficient sleep and recreation before the examination to be in a state of optimum efficiency.

Engage in no other types of serious study between the final review and the examination.

Research and experience have indicated the desirability of the following procedures in preparing for examinations. You may wish to revise your previous judgments after reading these suggestions.

Initial preparation adjusted to the essay type of examination, *i.e*, for purposes of recall and reproduction, is likely to be more effective than that adjusted to objective types of questions such as multiple-choice, true-false, and completion. In preparing for the latter type of examination students are likely to emphasize details and take random notes; for the essay type the tendency is to make a comprehensive and more orderly review of scope and organization of problems and fields, noting relationships and practicing recall through outlining, making summaries, and answering sample questions. Such a review tends toward greater permanency of learning and better test performance than the random methods of concentrating on details.

Practice with specific questions following the more comprehensive review may reveal weaknesses and increase skill in handling these types of questions in the examination.

Cramming before examinations cannot take the place of systematic study distributed over a longer period of time. A comprehensive, vivid review, however, helps to clarify the organization of a field of study, reveals aspects needing more intensive effort, and places details in a meaningful setting.

Some reviewing with others is helpful when members of the group are fairly comparable in achievement, but those who are most proficient are likely to gain least. Reviewing alone should usually precede as well as follow group study.

A period of rest or light activity should intervene between the review and the examination; other serious work should be avoided, if possible, to prevent the effects of retroactive inhibition.*

What are the best techniques to employ in taking examinations? Read the suggestions given below with a view to discovering faults or weaknesses in your present method. Try to distinguish between techniques that you think might be helpful chiefly to raise your score on a test and those which would seem to be of real value for permanent learning.

Approach the examination with an attitude of desiring to do your best work but without worry over the outcome. Anxiety and worry are likely to inhibit mental activity, and a

* See pp. 145-146.

carefree attitude of indifference may fail to stimulate best efforts.

Equip yourself with needed supplies such as paper, pencil, pen and ink, and eraser.

Make an initial survey of the examination to note its scope, the relative importance of various items as judged perhaps by the values assigned, and the approximate time that should be spent on each question. Also note questions that might be handled consecutively in order to take advantage of related trends of thought.

The order of tackling the questions may vary with the examination and the individual. For essay-type questions, beginning with an easy or an interesting one may help to marshal energies and build up confidence. For specific-type questions it is usually a good plan to go through fairly rapidly at first, answering those questions about which you are quite certain and then returning to the more difficult ones. Some questions may thus give you leads on others.

Read all directions connected with the examination carefully and critically to note implications, and follow them explicitly.

Outline your discussion of an essay type of question before beginning to write. Try to recall all aspects of the topic in order to have as complete a discussion as possible of pertinent points. Work for neatness, logical organization, accuracy of detail, and clarity of expression.

Note every word in a true-false or other type of specific question. Watch for any suggestive clues as to correct answers in inclusive terms such as "never" or "always" and in limiting terms such as "sometimes" or "generally." Ascertain from the instructions whether or not you should attempt to guess on uncertain questions. If the scoring method penalizes guessing by subtracting wrong answers from right ones, you will not find it profitable to guess when you do not know the answer. Make a real effort, however, to reach a rational judgment about each question. In "matching" questions, a rapid checking of the easily identified items will save time in searching for appropriate pairs of more uncertain ones.

If the time is limited, watch the amount spent on each question, and plan to answer the specified or required number of questions.

Review your answers, if possible, for errors and omissions before turning in your paper.

If test papers are returned, note errors, corrections, and comments carefully. The opportunity for class groups to check answers in examinations has been demonstrated to be a valuable learning technique.*

What are the essential steps in the preparation of a term or special report?

Most college courses provide opportunity for students to select problems of interest for special study. Some colleges have introduced independent study in place of regular courses for those students who show ability to pursue such study profitably. The preparation of reports or themes generally concludes such a unit of study. The following steps are usually involved in their development.

Locate and define a problem for study. A problem should be selected carefully, since this independent study, if wisely planned, may offer the finest opportunities for growth while in college. Here the principles of learning can be applied most effectively, because you will be working toward your own self-determined goals.

In locating a problem within a given field consider the following factors:

1. What are the major unsolved problems in this area?

2. Which ones are most closely related to my personal, vocational, or social-civic interests?

3. Which problems would be suitable for me to study, considering my present training and abilities?

4. Which ones would best meet my immediate needs for growth?

5. For which problems are source or reference materials or opportunities for direct study available?

6. Your instructor or adviser will, of course, guide you in these considerations.

* The student who encounters serious difficulty in demonstrating his achievement on examinations may benefit from reading a little book by Harry C McKown, *How to Pass a Written Examination,* published by McGraw-Hill Book Company, Inc

After a problem has been selected, it should be defined as to the scope and purposes of the study and analyzed as to the possible factors involved. A problem should not be so broad that you will be led into superficial work and meaningless generalizations or become discouraged. On the other hand, it should not be so narrow at this stage in your work as to prevent a broadening of your insight and understanding with respect to the phase of life being studied. You may need guidance in choosing a subject that is suitably related to your present background and skills and that will lead to new problems to be explored.

Write out answers to the following questions about a problem that you have chosen:

1. What will my purposes be in making this study?

2. What factors are likely to be involved in the study of the problem? This refers to types of information and skills needed, not the specific findings.

3. How can I state the problem most clearly to express my purposes and the nature of the research involved?

Ascertain best sources of pertinent information about the problem. The first step is the preparation of a bibliography of materials to be used. Some extensive reading in a good standard text or an encyclopedia or other general reference book (see pages 162-166) may help to orient you with respect to the problem so that you can break it down into its various aspects. Footnotes and bibliographies in these general references will often give clues to valuable source materials.

Before starting to use the library card catalogue to locate materials, write down several headings under which you might reasonably expect to find references bearing on your topic. Careful analysis of your problem and much ingenuity are needed to discover the various possibilities. A reference librarian can be helpful at this stage. Also review the suggestions for using the card catalogue given on pages 156 *et seq.*

Enter each suitable reference found in the card catalogue on a separate card according to the directions on page 199. If library call numbers are included, you may save much time later in locating the materials.*

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* A sectioned, cardboard packet of the size to fit your cards is convenient for filing and carrying the cards.

Always note the date of publication of references. In fields where active research is being carried on, published materials may soon become outdated, but in other fields the older materials may sometimes be as useful as more recent publications. In judging the dependability of authors learn to use the biographical materials described on page 164, also the methods suggested on pages 165-166.

After exhausting the resources of the card catalogue it may be necessary to use special indexes and guides. This is invariably important with a topic of current interest. Review the suggestions for the use of these indexes and guides on pages 161-162 together with those for other special materials such as statistical references, pamphlets, and government documents (see page 164). Your reference librarian may give you additional help in locating pertinent material.

Do not expect to prepare a complete and final bibliography at this stage. Many of the references in your card file will doubtless prove unsuitable, and you will probably find others in footnotes and chapter bibliographies when you begin to study your materials. If you have access to the stacks in your library, you may also locate additional materials as you browse in various sections. You will need to add and eliminate references continuously as you proceed.

Read both extensively and intensively. You may find it most profitable to read extensively at first in order to become well oriented in the field of your problem. Suggestions for scanning and appraising a book or article (see pages 180, 183) should be applied. Later you will wish to read well-chosen materials intensively and critically and take accurate notes. Still later you may wish to skim through many materials to locate specific data needed to round out your study. Suggestions given in Chap. XIII should help you.

When making notes, keep topics on separate sheets of note paper (see page 197). You are now preparing the way for creative synthesis in your problem, and your notes should be flexible enough to fit into whatever type of organization evolves.

We have assumed that your preparation involves library work. In solving some problems you will need to conduct laboratory experiments and observe and record your findings. In solving others you may need to observe particular condi-

tions or collect original data during excursions or through surveys. Special methods of observing and recording data appropriate to the particular study are then called for and should be worked out carefully under the guidance of your instructor.

Analyze and organize your findings in a clear and interesting style. Your report will, doubtless, have been taking form as you have collected your data. Your notes should now be sorted carefully according to the major classifications within the outline. Study your notes under each heading to discover trends and conflicting data. Give your imagination rein to consider all possible interpretations of the materials, but examine each suggestion critically in the light of available facts. Write out tentative statements of the most plausible interpretations of your findings, and discuss them with your instructor and interested friends. Let your mind play on the materials in free moments for at least several days, always coming back to critical examination of your notes. Eventually the findings will begin to take definite form and organization in your mind.

At this stage map out as detailed an outline as possible of the report that you expect to write. It will usually include the following major headings:

1. Statement of the problem.
2. Definition of its nature and scope.
3. Description of the methods used in studying the problem.
4. Organized presentation of findings and their interpretation.
5. Summary of significant conclusions.
6. Annotated bibliography of reference materials.

This outline should be your constant guide in writing the report but may need to be revised as you proceed with the work. Unless the writing project is purely creative in nature, the reading notes should be used continuously. This does not mean that numerous passages should be copied verbatim. Rather, you should aim to state findings and interpretations clearly in your own words, using exact quotations from various sources only when they are valuable to illustrate points, to stimulate interest, or to enhance the aesthetic qualities of the report.

All ideas, statistics, or quotations drawn from your readings should be accurately documented as to source, and quoted material should be inclosed in quotation marks. Intentional

omission of such acknowledgment in published writings is known as plagiarism and is considered as dishonest a practice as appropriating material possessions. References to sources may be made in numbered footnotes * or in numbered references in parentheses to materials included in the bibliography, *e.g.* (66, p. 25).†

Summaries or conclusions should include a brief restatement of the purpose, scope, and methods of the study and should emphasize major findings or trends. It is usually desirable to include a statement as to inconclusive evidence and unsolved problems needing further study.

The first draft of a report may now be written fairly rapidly and spontaneously. It should then be checked over once for accuracy and clarity of presentation and again for sentence structure and style.

Prepare a bibliography. This should include the references from your bibliographical cards that have actually been used in your study and that have contributed in some way to the report. If your list of reference materials is long, they may be grouped, either by type of material, *e g.*, books, pamphlets, periodicals, or by the major topics within your report to which each reference has contributed.

References to books or pamphlets should include the full name of the author, last name first; the entire title and sub-title, underlined; the name of the editor, if a compilation, or of the translator, if there is one; the place of publication; the name of the publisher; date of publication; volume number if one of a series; and number of pages.

References to magazine articles should include name of the author, last name first; the title of the article, in quotation marks; the name of the journal, underlined; the volume of the journal; the numbers of the pages for the article; and the date.

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* Consecutive Arabic numbers for footnotes throughout a report are usually preferred to stars or other symbols, since numerous footnotes on one page may necessitate a complicated set of symbols. Following is a sample of a footnote:

> [1] Cooper, Charles W , and Edmund J. Robins, *The Term Paper: A Manual and Model,* rev. ed., Stanford University, Calif., Stanford University Press, 1934, p 25.

† See reference with this number in the Selected References, pp. 471–483.

The titles of chapters in books or of articles in reference works are treated in the same manner as titles of magazine articles, *i.e.*, placed in quotation marks with the names of the volumes in which they are found underlined. References should be alphabetized within a grouping according to authors and numbered consecutively. Annotations if used should be terse statements as to the nature and quality of references and their contributions to your study. Here is a sample of one annotated reference:

Cooper, Charles W, and Edmund J Robins. *The Term Paper · A Manual and Model*, rev. ed, Stanford University, Calif, Stanford University Press, 1934, 32 pp.

This is written especially for the beginner who has not yet mastered the mechanics of gathering information and presenting it in accepted form It is prepared in such form that it serves the student as an example of his own term paper.

The form of a term report. This may vary somewhat with the field of study and the instructor. The report should usually be typed, though legible handwriting may be permissible, on 8½- by 11-inch paper of good quality. A title page and table of contents or outline are generally included. The title should be repeated on the first page, and the main body of the report should be double spaced. Quotations of any length should be set off by spacing and indentation and should be single spaced. When thus arranged, quotation marks are not needed. Footnotes should be numbered consecutively throughout the report or for each page, set off from the main body of the report by horizontal lines at the left of the page, and single spaced. Major outline headings are usually underlined, as are all words that would appear in italics in print. The form for bibliographies has already been discussed. You may wish to consult some of the chapter references on term reports or a standard manual on the preparation of manuscript, for more detailed discussions regarding form.

How may scholarship reports be interpreted?

Mid-term and final marks are the most common and traditional means of appraising student progress. A student should thoroughly understand the system of marking used in his institution if he is to interpret the meaning of the marks that he

receives. What factors enter into the determination of marks, and what approximate weight is attached to each of these factors? For example, to what extent are marks based on evidences of mastery of course content, of power in problem solving and independent thinking, of creative work, of industry and effective work habits, and of abilities in a field of study? Are students marked competitively, or is their achievement judged according to established standards or in relation to their abilities? Do instructors differ in their methods of marking and perhaps use various combinations of these factors in arriving at their judgments as to the achievements and progress of their students?

A little thought about this matter of marking will reveal its complicated nature and may even lead some to agree with the facetious statement of a psychologist that marks are exact measures of unknown quantities. Some institutions, recognizing the difficulties involved in appraising scholarship, have abolished marks except "pass" or "fail." Others have supplemented traditional methods by descriptive statements of the growth, strengths, and weaknesses evidenced by students. Whatever system may be used, the individual student will benefit from his scholarship reports only as he attempts to analyze what they may mean as to his weak, mediocre, or strong abilities; his interests; his efforts and his work efficiency; and the extent of his growth.

The possible influences of attitudes, health, living conditions, and the total program of activities should also be considered. Conferences with instructors and counselors are likely to prove helpful in making sound interpretations of scholarship reports.

Your major purpose in any appraisal should be that of planning future activities more intelligently. Wise judgment as to whether your scholarship status is satisfactory, or needs to be improved will entail the comparison of all your goals with the varied opportunities for self-development available in the college environment and the degree to which you use your opportunities. If your scholarship appears to be unsatisfactory, you should consider the following questions: What are the probable causes of the difficulty? Which of these causes can I eliminate, and how? How can I work out the best adjustment with respect to the others? Should I change my educational

plans in some respects? Who can best help me to study these problems and to decide on the wisest course of action?

What are some of the causes of poor scholarship? Numerous factors account for low scholastic achievement, but no one of them is likely to be the sole cause of the difficulty. Usually several factors are involved. If your scholarship is poor, your first problem is to locate the causes. The following list of possible causes may help you:

Insufficient general scholastic aptitude. Indications of the strength of your scholastic aptitude may be gained from the usual quality of your scholarship in high school and college and from your standing on scholastic-aptitude tests. However, special abilities, work habits and effort, interest, and circumstances may influence your achievement and should be considered in interpreting scholarship and test data. If scholastic aptitude appears to be weak, it is wise to consider whether or not college training will afford you the best opportunities for self-realization. Since minimal requirements vary among departments of learning, the question might be that of replanning your program of studies.

Limited special abilities important for particular fields of study. Less is known about the significance of special abilities for college success than about general scholastic ability. There are tests of musical, artistic, mechanical, and scientific aptitudes that might prove helpful in diagnosing difficulties in courses that utilize these abilities.*

For each course in which your achievement is unsatisfactory, confer with your instructor or counselor as to possible handicaps. For example, inefficient methods of memorizing might interfere with the retention of facts in a history course or the learning of vocabulary in a foreign language; limited mathematical ability, inaccuracy of observation, or inability to weigh evidence would be likely to cause difficulty in many sciences;

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* Summaries of types of deficiencies in certain subject areas are given in the following references:

Educational Diagnosis, Thirty-fourth Yearbook of the National Society for the Study of Education, Bloomington, Ill., Public School Publishing Company, 1935, Chaps. VIII, XIII, XIV, XVI.

Williamson, E G., *How to Counsel Students,* New York, McGraw-Hill Book Company, Inc., 1939, pp. 270-275.

poor spelling, poor reading ability, or poor language expression would be limiting factors in English courses. Make a list of your handicaps, and map out a remedial program for each difficulty. Marks or other evidences of achievement in previous courses in the area in which you are experiencing difficulty may help you to judge the wisdom of attempting to overcome seeming handicaps. However, poor achievement in several related courses may merely indicate failure to locate causes rather than a fundamental difficulty. Both possibilities should be considered.

Inadequate background of knowledge or skills. Among possibilities here is inadequate mastery of the fundamentals of grammar important for language study or of mathematical principles and processes needed for advanced mathematics or science. A limited vocabulary and poor spelling and language usage would be handicaps in English composition, and all these factors together with ineffective reading ability might cause difficulty in most types of college study. Records of tests of skills and of information in various subject areas may be available through your instructors or your personnel officer, and interpretations of such data should be secured, if possible, to aid you in your self-evaluation. A careful analysis of your course examinations should also prove helpful.

Lack of interest and clearly defined purposes in the work. This is one of the most fertile fields for exploration, since the drive and will power associated with intense interest and purposeful effort may enable you to overcome many handicaps. Lack of real motivation may prevent success when other conditions are favorable. However, interest in an activity is not always associated with the requisite ability for that activity, and the degree of interest should not be used as the sole criterion for judging whether or not it is desirable to continue in a chosen field of study. If an uninteresting and difficult course is a prerequisite in training for a desired and *suitable* vocational goal (*i.e.*, in harmony with your major abilities), you can scarcely afford not to attack it with determination and well-planned effort. Some of our deepest satisfactions come from such mastery, and the effort usually reveals strengths of which we were unaware.

Poor work habits. Your liabilities in this respect should have been discovered during your study throughout this section. If you have performed the inventories and exercises carefully, you will have plans mapped out to increase your efficiency in learning. Study habits can be changed or developed only through persistent effort; so do not stop with the plans and expect the desired changes to occur as miracles.

Unwise distribution of time. This problem has already been dealt with in sufficient detail so that it need only be mentioned as a factor that may need reconsideration in the light of experience.

Ill health, worries, or physical handicaps. Review the discussion of these matters (pages 120-128) for suggestions as to possible causes and ways of dealing with them. Visual and auditory handicaps are among the more obvious physical difficulties that might impair learning efficiency in some areas, though research indicates that they need not interfere when properly cared for. One study of freshman adjustment showed that those who had been physically handicapped from birth made a poorer scholastic adustment on the average than did the rest of the group. This fact may suggest the need in some instances for a more wholesome emotional adjustment to the difficulty and the development of a more satisfying program of living.

Records of innumerable individuals with even severe health or physical handicaps attest to the fact that with wise planning these need be no deterrent to fine achievement.

Personal characteristics. We considered some of the traits of personality most frequently associated with successful adjustment in college and with good scholarship on page 25 and on pages 133-134. In addition to these there should be mentioned the lack of stability and maturity of personality that is frequently evidenced in erratic and unsystematic attacks on work. Young and Estabrook, who have made an intensive study of factors involved in studiousness, describe the studious individual as one who "possesses certain *habits* or *attitudes* making for high integration of personality and consistency of effort." Among these they list caution, conscientiousness, orderliness, persistence, industry, deliberation, self-control,

thrift, indifference to pleasure, and lack of impulsiveness and restlessness.*

Any student who attempts to appraise himself with respect to these eight factors is quite sure to locate both strengths and weaknesses. In evaluating progress as a means of planning ahead, one should try to secure the total picture of assets and liabilities and weigh the one against the other in deciding where time and energy can be most profitably directed.

Personal Inventory

What changes seem desirable in your program of studies as previously mapped out?

> What strengths and weaknesses have you discovered that bear on this problem?
>
> Map out a revised program of studies for the remainder of your probable stay in college.
>
> Enter in your notebook the reasons for the changes made in your program.

Suggested Readings (see Selected References, pp. 471-483): 23; 26; 45; 53, 91, pp. 173-200, 291-348, 135, pp. 35-39; 154; 198; 258, pp. 12-13.

* Manual for *Young-Estabrook Scale for Measuring Studiousness, by Means of the Strong Vocational Interest Blank for Men,* Stanford University, Calif., Stanford University Press, April, 1936.

PART III

BUILDING A LIFE

THE PROCESS OF LIFE BUILDING

What are the problems of life building in our modern world?

Who has not felt the thrill in his childhood days of piling block upon block and watching a wondrous structure grow under his hands? If we failed to plan aright and the structure fell, we would start to rebuild it, perhaps in a different pattern. But the task is not that simple in life building From childhood on we are building our lives, but the process is so slow that we can seldom note the growth. Also we cannot pull the "edifice" down and start to build it again if it fails to please our fancy. Although we must always build in the present upon foundations laid in the past, our human building materials are sufficiently plastic that we can profoundly alter our lives by skillful planning and building. The skill for constructing a life that will stand the stress and strain of modern living is more difficult to acquire than that needed for building a material structure. It is both a science and an art.

The person who drifts along without developing this skill might be compared with a certain queer old lady who had a mania for continuously remodeling her house, adding on a room here or there with no definite plan in mind. The resulting structure, which still stands in central California as an ugly monument of passing whims and fancies, is neither beautiful nor useful. Think of a house that you have seen in which the location, building materials, architect's plan, landscaping, interior decorations, and furnishings have all been chosen and developed with a view to harmony, beauty of design, and usefulness. Can you think of people whom you have known who could be compared with these two types of houses?

In building our lives we must work with the materials that nature has given us and develop plans for incorporating these materials in the best possible way. Lives of others may yield

suggestions and inspiration, but we cannot exactly imitate them. The advice to know thyself, accept thyself, and be thyself is as good today as it was in ancient times. Our human building materials—our potential aptitudes, abilities, and personal characteristics—develop as we live and grow. The building site—the world of people and things—changes continuously. Therefore, our plans and building techniques must be flexible and allow for endless readjustment.

Applied science has revolutionized our material world; and although it has showered conveniences and luxuries upon us, it has also vastly increased the complexity of living. We now recognize that man's control of the physical environment holds opportunities for either his liberation or enslavement, his improvement or destruction. We are gradually becoming aware that our greatest problem is not the increased mastery of our physical environment but a better understanding and mastery of ourselves and of our social relationships. Social, economic, and political conditions throughout the world attest to the need for a social science of civilized living. Applied sciences have reduced disease, lengthened the average life span by increasing the chances of survival, and improved the physical efficiency and well-being of many. Less progress has been made in the realm of mental health. College graduates add their quota each year to the mentally ill and socially maladjusted. College experience has failed to give them the understanding of self and the techniques necessary for successful adjustment in our modern world.

Much knowledge of personality and human behavior has been accumulated, but the science of human life building is only in its infancy. This retardation is due partly to the wide gaps in our knowledge about ourselves and also to the fact that living involves so much besides the application of scientific knowledge. However, if all that is known were applied first by parents and teachers and later by individuals in planning and directing their lives, doubtless as momentous changes would be wrought in human lives as have already been effected in our physical environment. We shall utilize some of this information about human personality in dealing with problems of self-knowledge and self-development.

How do heredity and environment influence our lives? *

For many years the question of the relative influence of heredity and environment on personality development has been debated. Some have claimed that heredity is the determining factor and that environment is relatively unimportant, extremists on the other side have held that almost any traits or qualities could be developed by the appropriate environmental conditions, if provided early enough in life As so often happens in a controversy, the smoke began to settle as soon as the results of crucial experimentation became available for interpretation. Research is now concerned with increasing our knowledge of what each contributes to our lives and in what manner.

Rather dramatic evidence of the relative influence of heredity and environment has resulted from the study of nature's own experiment—twins There are two kinds of twins, duplicate and fraternal. Duplicate twins arise from a single fertilized ovum that, at some time in early development, undergoes a cleavage resulting in two individuals. Their heredity is thus "duplicate." Fraternal twins arise from two ova separately fertilized. Their heredity thus has no more in common than that of ordinary brothers and sisters. Twins of the first type are always of the same sex, those of the second type may be of either the same or opposite sex.

Physical and mental measurements of duplicate twins show that they resemble each other in most physical and mental traits nearly as much as one individual resembles himself if measured on two occasions over a moderate interval. Fraternal twins, on the other hand, resemble each other only a little more than do ordinary brothers and sisters. Many people have accepted this as convincing evidence of the strength of heredity, but some point out that the environment of duplicate twins is really more similar than that of fraternal twins and that the effect of environment is thus not entirely ruled out by such studies. They also attribute to environment the slight excess in the resemblance of fraternal twins over that of ordinary brothers and sisters.

Studies of duplicate twins reared apart may eventually give

* The section on heredity was prepared in collaboration with Barbara S. Burks.

more conclusive answers to this question. In the cases studied thus far the resemblances tended to be less than with duplicate twins reared together but were nevertheless very conspicuous in physique and mental ability and usually quite strong in personality traits as well. The available facts furnish marked evidence of the strength of heredity but also indicate significant influences of environment, especially in temperamental and social characteristics.

A type of investigation that discriminates between the effects of heredity and environment in a different way from the studies of twins employs foster children as subjects. If children adopted in infancy and the foster parents or foster brothers and sisters with whom they have no blood relationship fail to show the usual resemblance in traits found among children and their own parents, brothers, and sisters, then we can conclude that heredity, rather than environment, causes family resemblance. Comprehensive studies of the intelligence and school achievements of foster children have been made, and these have yielded results not completely in agreement, although they show some environmental effect and also important effects of heredity as well.

Until recently there was little crucial evidence upon the heredity of personality traits. Considerable reason exists for believing that these are more amenable to environmental influences than are intellectual traits, although heredity, too, appears to contribute a heavy share. Observations and cinema records of very young infants have revealed distinctly individual patterns of behavior that have appeared early and have tended to persist over a period of years and to assert themselves under varying environmental conditions. The Dionne quintuplets with identical hereditary factors and a carefully controlled environment have given us interesting evidence of the uniqueness of every human personality. Popular and good-natured Yvonne, aggressive Annette, happy-go-lucky and self-sufficient Émilie, variable and unpredictable Cécile, and babyish Marie have all developed individuality that distinguishes them one from another. They furnish dramatic proof of the difficulty of identifying hereditary and environmental influences.

Present evidence indicates that our personalities are the products of continuous interplay between the innately deter-

mined patterns of our human organisms and the complex patterns of environmental pressures. Each individual, because of his unique constitutional pattern, is *susceptible* to environmental influences in ways different from every other individual and hence has in reality a unique environment. Understanding of the ways in which nature and nurture interact in our lives is helpful for self-direction.

How do we inherit? J. Arthur Thomson, an eminent scientist, said, "The strands are ancient, but each individual is a new knot." This statement is based upon facts too numerous and complicated to consider here in detail. We shall limit ourselves to basic data needed for our thinking about the general nature of the influence of heredity in our lives. The reader who is interested in knowing more about the process by which we receive our inheritance should consult some of the chapter references (5, 52, 83, 175, 196)

The human germ cell contains twenty-four pairs of small bodies known as chromosomes, within which are stored the determiners of inherited characteristics. These "determiners" are called genes, which are assumed to be little packets of chemicals arranged in linear order in the chromosomes, like little beads on a string They are too infinitesimal to be seen, but the idea of their existence constitutes a scientific hypothesis that accounts for many of the known facts about heredity. Chromosomes can be clearly seen and studied under the microscope.

Each of the chromosomes in a pair carries determiners for the same traits. The potentialities inherent in each chromosome may be very different, however, since one of them was received from each parent. For example, one might carry determiners for brown eyes, and the other for blue eyes. Each pair of chromosomes probably carries determiners for a large number of traits, and a single trait often depends upon determiners in several chromosomes.

Before the ovum (female) and sperm (male) cells are "mature" or ready to unite, each goes through a process of division during which the pairs of chromosomes separate, one going into each of the new cells formed by the division Since this sorting of the chromosomes occurs at random, the uniting of two germ cells may result in any one of an enormous number of

possible combinations. It has been estimated, on the basis of these possible combinations of the chromosomes, that there is less than one chance in 282 trillion that any two children other than duplicate twins in a given family will be identical in their heredity; and other factors tend to reduce the chances still more. Although many brothers and sisters have many chromosomes in common, the extent of possible variation affords an adequate explanation of the uniqueness of each individual.

There are other causes of variation beside the random allotment of chromosomes. Some determiners in the germ cells are "dominant"; i e., they tend to reveal themselves in the traits of an individual if present in the germ plasm. Others are "recessive", i e., they remain dormant, as it were, if opposing dominant determiners are present in the germ cells, and can appear again only if combined with similar recessive determiners in later generations. Eye color is an illustration of this tendency toward dominance, brown being dominant and blue recessive. There is always the possibility that recessive determiners will show up or that dominant ones will be lost in the allotment of chromosomes from both parental lines. Moreover, there is probably reciprocal influence between most pairs of genes instead of complete dominance and recessiveness. Also, changes taking place in the genes may sometimes result in the production of new characteristics never before seen in a particular family line. It is evident that the subject is so complicated as to make impossible an evaluation of one's heredity solely on the basis of apparent presence or absence of characteristics in one's ancestors.

It is important to bear in mind that we do not inherit definite *characteristics* but merely the *potentiality* for developing various characteristics to a certain degree under *favoring conditions*. The influence of environment in hindering or stimulating the development of these potentialities must always be considered in attempting to account for the qualities of an individual at any given time. We shall consider here a few broad categories of human variables that have their basis in native endowment.

Physical characteristics. Among the obvious external features are stature, weight, bodily proportions, sex, texture of skin and hair, eye color, facial features, and certain defects

and deformities such as extra fingers or toes, or "web foot." The nervous system, the endocrine glands, and other internal organs are fundamental interacting factors in the development of personality.

For centuries efforts have been made to classify human beings into types according to physical traits and supposedly related temperamental qualities. Many schools of phrenology and character reading have been built upon this theory of types. Research has failed to substantiate most of the claims of their proponents, but some of these systems have been perpetuated in various forms, sustained by human credulity and the desire for self-knowledge.

Anthropologists, medical clinicians, and psychologists have studied this question of possible relationships between physical characteristics and personal qualities from many angles. One of the most promising recent approaches has been made by William H. Sheldon. His experiments suggest the validity of certain ancient observations about individual differences in physique and temperament but discredit the older interpretations in terms of discrete types. Many individuals were studied through accurate measurements of various segments of the body portrayed in standardized photographs, and the results were compared with data on personality and health conditions of the subjects. Sheldon interpreted his findings as indicating the importance of three basic components of physique in influencing the bodily economy and the temperament, but his subjects could not be grouped into a few types. Instead they showed a gradation from extreme dominance of one of the components to various mixtures of the factors (200). He reports that marked changes in the weight of an individual have not resulted in any changes in that person's classification according to the three basic components.* How-

* Sheldon has named and described these three components as follows

Endomorphy, when the digestive viscera are massive and highly developed, while the body structures are relatively weak and undeveloped. The hallmark of endomorphy is softness and sphericity.

Mesomorphy, when the body structures of bone, muscle, and connective tissue are in the ascendancy   The hallmark of mesomorphy is uprightness and sturdiness of structure.

Ectomorphy, when there is relatively slight development of both visceral and bodily structure as compared with the sensory tissue   This

ever, Sheldon emphasizes the complexity and present limitations of physical analysis by stating: "So many secondary variables still remain to be described that the horizon of individuality seems only to broaden and to recede to greater distance as the techniques of physical description mature to usefulness" (119, Vol. I, p. 541).

Certain aspects of the general constitutional pattern are sufficiently important in personality development and life adjustment to warrant mention in this brief survey of the nature of native endowment.

RESISTANCE OR PREDISPOSITION TO DISEASE. It is quite definitely established that specific infectious diseases are not inherited but that predispositions to certain diseases may be the result of organic structure, weaknesses, or abnormalities that are inherited. For example, some individuals seem to have less resistance to tuberculosis and other germ diseases than do others, and types of skin vary in the degree of resistance to infection. Certain types of deafness and blindness are hereditary; also some nervous diseases, such as Huntington's chorea.

THE ENDOCRINE GLANDS. Physical growth, mental development, and the behavior of an individual are intimately affected by the functioning of these ductless glands. They produce very powerful substances known as hormones, which are poured into the blood stream and carried to all parts of the body, affecting the growth and functioning of various organs, skeletal and muscular development, and the behavior of the individual. They are intermediate agencies helping to determine some of the physical traits listed previously as inherited. The functioning of the endocrine glands undoubtedly has a definite basis in heredity, though environmental conditions such as food and water, disease conditions, and even mental and emotional

condition involves the greatest surface area relative to mass, and the nervous system and sensory tissue have relatively poor protection. The hallmark of ectomorphy is described as the stooped posture and hesitant restraint of movement (119, Vol I, p. 540).

Each individual who was studied was rated on a seven-point scale as to the strength of each of these components in his physique. Thus, the numeral 7-1-1 for a person would indicate that he was an extreme "endomorph"; the numeral 4-4-4 would indicate a balance of all three components in the physique.

states in part caused by the glands have their reciprocal influence.

The thyroid gland in the neck, the pituitary gland attached to the base of the brain, and the sex glands produce hormones that have important effects on growth and behavior. Both the thyroid and the pituitary glands stimulate metabolism, thus affecting behavior. Their malfunctioning may produce various abnormalities, such as the "cretin idiot," due to a deficient thyroid at birth, or dwarfism or gigantism, which may result from deficiency or excess of functioning of the pituitary before adolescence. The sex hormones steer development toward masculinity and femininity. The adrenal glands located near the kidneys are closely associated with the emotions of fear and anger. In these emotional states they release increased amounts of their hormones into the blood stream and start a series of organic changes which render the body capable of reacting with great energy. These examples are merely illustrative. The effects of each gland are numerous though not fully understood. These glands are interdependent, acting together and upon each other, and the particular balance of the various hormones in the system undoubtedly bears an intimate relation to behavior and personality trends.

THE NERVOUS SYSTEM   The nervous system is the connecting link between the individual and his environment and is therefore one of his most important inherited mechanisms for growth and adjustment. It consists of a central portion, the brain and spinal cord; and a peripheral portion consisting of nerves which run to and from this general center and connect it with every portion of the body. The sensory nerves carry stimuli into the center, and the motor nerves carry responses out from the center. The sensory nerves receive stimuli from the sense organs and carry impulses to the central portion of the nervous system whence they may be transferred to motor nerves, which in turn arouse the muscles   The endocrine glands and all the internal organs are also linked up with the central nervous system so that the whole organism is enabled to behave as an integrated unit

The most important part of the nervous system in man is the cerebrum, or higher brain center. The number of nerve cells in the cerebrum and their ability to work together in compli-

cated patterns are, to a large degree, a matter of inheritance. An individual is born with the full number of brain cells that he will ever have, and all that environment can do is to develop them, prevent their development, or injure them. The speed of impulses throughout the nervous system, the degree of sensitivity to stimuli, and the power of recovery from fatigue are largely based on heredity.

In summing up the nature of human physical inheritance we may think of the whole physique, internal and external, as a patterned organization of elements established basically by heredity and remaining relatively constant throughout life but affected in development by both prenatal and later environmental influences. The physiological functions of this structure, involving the physics and chemistry of the body, are intimately related to both constitutional structure and the material environment that furnishes food, air, sunlight, temperature, and the opportunities for activity. Temperament and psychological motivation and activity are related to these factors and develop through social interplay with other human beings. A fundamental problem of self-direction is to learn how to maintain a harmonious balance between the constitutional pattern and life purposes and activities. A boy or girl who aspires to an athletic or dancing career without possessing a physique suitable for either of these activities is a fairly common illustration of lack of intelligent self-direction.

Temperamental characteristics. A group of characteristics including speed of reaction, degree of emotionality, and emotional stability is closely related to physique and the activity of the endocrine glands and the nervous system. Tendencies as to prevailing mood—whether melancholy or cheerful or changeable—probably have a hereditary basis though affected by experience, habit, and health. The same is true of the amount and quality of emotional response.*

* Sheldon, whose study of the components of physique was described above (p 255), has named and described three groups of traits that he designates as primary temperamental components His data suggest a relationship, though not perfect, between the physical and temperamental components, and continuous variation among individuals rather than the existence of a few types. Sheldon considers that disagreements or inconsistencies between physical and temperamental patterns of an in-

Mental characteristics.

HUMAN MOTIVES AND DRIVES. A motive has been defined as that which arouses, sustains, and directs activity, a drive, as a stimulus, usually internal, that arouses persistent mass activity (199, pp. 84, 89). At birth the human infant shows only a generalized excitability in response to stimuli, expressed through random movements and alternating with states of quiescence or calm. From birth infants exhibit marked individual differences even in these gross emotional reactions of placidness and excitability and very soon give evidence of differentiated reactions of distress and delight as well as mere excitability. These again become further differentiated into evidences of fear, anger, disgust, or jealousy on the distress side, and of joy, elation, and affection on the side of pleasurable emotions. In the normal human being this differentiation continues until the whole gamut of emotional responses becomes a part of his repertoire for behavior in his individual pattern.

Common human sources of these drives to action are organic needs (*e g*, for food, air, elimination, rest, activity, and sex) and the stimuli from the environment received through the special senses (sight, hearing, smell, taste, touch, pain, cold and warmth, and body position and balance). All the sense organs are means by which man comes in contact with his environment and are aids in adjusting to the environment or controlling it. The desires for adjustment to, or mastery of, the environment

dividual may be most valuable in throwing light on motivation. His names and descriptions of the components of temperament are as follows.

Viscerotonia in its extreme manifestation is characterized by general relaxation, love of comfort, sociability, conviviality, gluttony for food, for people, and for affection . . The digestive tract is king, and its welfare appears to define the primary purpose of life.

Somatotonia is roughly a predominance of muscular activity and of vigorous bodily assertiveness. These people have vigor and push. The executive department of their internal economy is strongly vested in their somatic muscular systems. Action and power define life's primary purpose.

Cerebrotonia is roughly a predominance of the element of restraint, inhibition, and of the desire for concealment. These people shrink away from sociality as from too strong a light. They "repress" somatic and visceral expression, are hyperattentional and avoid attracting attention to themselves. Their behavior seems dominated by the inhibitory and attentional functions of the cerebrum, and their motivation appears to involve an antithesis to both of the other extremes described above.

have been suggested as fundamental human motives or drives to action.

As an individual grows and establishes relationships with other people, various social motives and drives develop that are associated with all the varieties of emotional reactions, such as affection, joy, fear, disgust, or jealousy. Among these social motives are the desire to belong to groups and be accepted by others, to have a respected status among others, and to receive responses of affection or approval from them. Eventually these different organic and social motives are interwoven into complicated systems of purposeful drives which exert a profound influence upon personality and behavior and are far removed from the original urges.

The physique and temperament are probably important factors in determining the relative strength of various drives for a particular individual. Pressures from the environment are also important in arousing drives and in influencing their expressions. Only when an individual understands these inner and outer forces in his life can he become master of his emotional tensions and drives. For example, a student may fail to follow through on a basic interest in a field of study because of an uncontrolled aversion to an instructor; or he may, on the other hand, cling to an unsuitable vocational goal which has grown out of admiration for a friend rather than real interest in the work.

INTELLIGENCE AND SPECIAL TRAITS. Intelligence and special aptitudes are at least partially dependent upon qualities of nervous tissue and brain development and, in addition, in the case of some special abilities, upon many special variations of the physical mechanism, such as refinements of the mechanism of the inner ear for pitch discrimination or of muscular coordinations for mechanical ability. To the extent that mental traits may be dependent upon such physical characteristics, we can easily understand their hereditary basis, but our knowledge about this relationship is very limited.

We have much less direct knowledge about mental than physical inheritance, partly because mental characteristics are much more difficult to observe and measure than physical traits, owing to the influence of the social environment. The progress in recent years in the measurement of intelligence and of some of the more specialized mental abilities and personality trends

has made it possible to increase our knowledge of mental inheritance.

Aside from intelligence, some of the special traits that seem to run in families and that probably have an inherited basis are artistic talent, musical ability, and scientific aptitude   Many interesting family histories have been collected upon musicians, particularly.   The Bach family history is, perhaps, the best known.   In eight generations there were fifty-seven individuals of very superior musical ability, twenty of these became eminent.   A study by Amram Scheinfeld of the families and careers of contemporary eminent musical artists resulted in the conclusion, supported by previous studies, that musical talent is in all probability inherited through a number of genes acting together and that without the required genes there can be no great musical achievement. Opportunity and training are also essential, but the talent must be there first before it can be cultivated (196, pp. 271, 277).

What is the significance of knowledge about heredity for life planning?

Social significance. Our present knowledge regarding human inheritance is of greater significance socially than individually We still lack much knowledge needed to make an accurate and comprehensive study of an individual's potentialities.   However, enough evidence has been accumulated regarding the presence of feeble-mindedness and other weaknesses and abnormalities in certain family strains and their relation to immorality, crime, and poverty to point to the need of a eugenics * program in the control of social problems H. G Wells has said that "to prevent the multiplication of people below a certain standard and to encourage the multiplication of exceptionally superior people is the only real and permanent way of mending the ills of the world."

Any individual can contribute his share to the furtherance of such a program by the study of his own family strain and that of a contemplated mate.   Many fairly obvious and often sig-

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* The term eugenics was coined from the Greek word *eugenes*—"wellborn"—by Francis Galton, who defined it as the study of the agencies under social control that may either improve or impair the racial qualities of future generations Its objects are to check the birth rate of the unfit and encourage the productivity of the fit

nificant trends can thus be detected and given consideration. The positive approach of considering what parentage will be likely to produce the best children is just as important as the more negative one of avoiding possibilities for the unfit.

If a particular hereditary condition is a dominant one, *e g.*, Huntington's chorea, depending on a single gene from one parent, there is a fifty-fifty chance of that parent's passing on the condition to a child. In recessive conditions the possibilities for inheritance are much more varied and the chances of transmission are in most cases much less than for simple dominant conditions. To inherit a recessive tendency, such as certain types of feeble-mindedness or insanity or blindness, a child must receive the appropriate genes from *both* parents. Therefore, if both parents *have* the recessive condition themselves, *i.e.*, if they each have a "double dose" of the gene, they are practically certain to pass it on to their children. Two parents, not themselves affected but both "carriers" of a recessive condition, will have offspring whose chances are one in four of inheriting the condition. Marriage of cousins or other closely related individuals increases the possibilities of similar genes coming together in children, but these may involve desirable characteristics as well as undesirable defects. Lists of some characteristics known to be dominant or recessive, or probably so, may be found in chapter references 83, 196.

Significance for self-direction. Here the problem is how an individual can gain better understanding of himself and exercise more intelligent control over his life.

The uniqueness of the individual. Every individual is unique in himself, possessing a combination of inherited potentialities not possessed by anyone else. (This statement probably holds true for all individuals except duplicate twins.) What does this fact mean in the development and direction of a human life?

One sometimes wishes to be or do this or that because of an admired friend, relative, movie star, hero, or heroine. A sunflower would not be attractive in a rose vase, or a single tiny rosebud in a huge ornamental vase. So in human lives the attractive artistic life is that one in which the unique potentialities and the life plan are suited to each other. A borrowed or copied plan may cause failure and unhappiness. Our knowl-

edge of heredity teaches us that we must be what we are and waste no time trying to be what we are not. If we can discover our best potentialities and make the most of them, we are laying some of the sound foundations for satisfying and worth-while lives.

The limits of individual variation. An individual can inherit only what is implicit in the germ plasm of his ancestors. At first thought this assertion may seem too self-evident to warrant discussion. But how often in our thinking and talking do we assume that opportunities or lack of them have been the sole determiners of what we are? Of course, environment in the form of opportunities for development is often as important as innate potentialities, but it cannot develop what is not present or develop in high degree what is present only in low degree. Also we are not so much merely *plastic* under the stimuli and pressures of our environments as we are *responsive* in different ways to them.

The pattern of inherited potentialities. From the point of view of self-knowledge, it is important to discover as accurately as possible not only the degree of strength or weakness of various tendencies but the total pattern of interrelated characteristics. An outstanding ability or an obvious defect may vitally affect one's life plan, but either one may prove an asset or a liability depending on how it fits into the total picture of personality and life activities. What we do with our talents and handicaps is quite as important as what we receive.

PERSONAL INVENTORY

(In making this inventory bear in mind that it is impossible to predict the hereditary traits of an individual with certainty. Do not expect your findings to be highly reliable. They should merely serve as clues in studying yourself)

List in parallel columns some of the significant characteristics of your relatives and yourself under the headings given below. Include among your relatives your grandparents, parents, uncles, aunts, brothers, and sisters.

Physical characteristics: Note here physique, general health, vigor and vitality, life span, and other normal traits; abnormalities or peculiarities, diseases, etc.

Temperamental characteristics Note such temperamental traits as a noticeable melancholic trend, unusual cheerfulness,

variability of mood, irritability or placidity, evenness of temper, emotional stability or instability, tendency to strong or weak emotional reactions, love of comfort, sociability, or tendency to solitude.

Mental characteristics: Note interests and abilities as they may be evidenced through vocational and avocational pursuits. List those traits which you consider of most conspicuous value, also those which you consider undesirable. Note special intellectual, artistic, or mechanical abilities.

List conspicuous traits of character, either desirable or undesirable, that have been manifested in relatives. Note religious trends.

Social characteristics · Note strength and permanency of family ties, club and other social interests, activities in public service, social reforms, etc.

On the basis of the lists of characteristics made above, list in Column 1 of a chart, with the headings given below, the specific characteristics that you wish to study in your ancestry, with a view to discovering clues as to your own hereditary possibilities. Then indicate in the columns for various relatives and yourself the situation with respect to each characteristic. If you wish to note the presence or absence of a specific characteristic, use the symbol *p* for presence and *a* for absence. If you wish to denote degrees of possession of a characteristic (*e.g.,* musical ability), use 1 to indicate a high degree, 2 an average degree, and 3 a low degree. When necessary, develop your own symbols, *e.g.,* use of hands, *amb,* ambidextrous; *l.h ,* left-handed; *r h ,* right-handed, entering the explanation of your key in Column 1 under the description of the characteristic   In Columns 8 to 14, inclusive, note the numbers of uncles, aunts, brothers, or sisters who possess each characteristic considered. For example, if one of your brothers was left-handed and three were right-handed, you would enter the following symbols: *l.h.*—1, *r.h.*—3.

A Summary of Some Family Characteristics

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Characteristics. List below the characteristics that you wish to study in your ancestry and in yourself	Father's father	Father's mother	Mother's father	Mother's mother	Father	Mother	Father's brothers	Father's sisters	Mother's brothers	Mother's sisters	Brothers	Sisters	Self

Study your chart carefully

> To determine which characteristics recur frequently in your ancestry.
>
> To discover clues as to your own heredity.

Draw lines through any frequently recurring characteristics listed in Column 1 that you think you can account for satisfactorily on the basis of environmental influences, such as strong traditions, prejudices, or persistent economic or health conditions.

Underline those characteristics listed in Column 1 which you think might be clues for discovering significant possibilities in your own heredity.

List in your notebook what you consider to be your own probable and possible potentialities of a desirable nature   Indicate ways in which you hope to develop and capitalize each of these desirable tendencies   Also list any of your own probable potentialities that seem undesirable to you.   Indicate ways in which you think you can overcome each or compensate for it.

List characteristics that you discover in this survey of your ancestry that might be assets or liabilities from the eugenic point of view and that should be studied further before choosing a life mate.

SUGGESTED READINGS (see Selected References, pp. 471-483). 5; 52, pp. 54-61, 77-144, 83, 168, 175, 196; 265, pp 22-53, 83-112, 324-360.

ENVIRONMENTAL INFLUENCES

How does environment influence our lives?

"In the beginning God gave to every people a cup of clay, and from this cup they drank their life." Thus runs a proverb of the Digger Indians quoted to Ruth Benedict by one of their chiefs (16, p. 21). The environment into which each of us is born supplies the material and social sustenance with which we build our lives and without which none of us could live or develop as human beings. Environment includes not only geographic conditions and material surroundings but also people and their ways of living. It supplies food, shelter, and clothing, the language that we learn to speak, established customs, traditions, beliefs, modes of behavior, and a growing store of human experience. The environment is thus the carrier of our social inheritance which interplays continuously with our biological heredity to make us what we are.

The actual environment for any individual is limited to the impressions that he receives and to which he reacts. Since each individual is unique in his hereditary potentialities and, hence, in his power of reacting to environmental conditions, the actual environment will never be exactly the same for any two individuals. Here again is a source of the individuality of each personality.

Studies of the cultures of various primitive people have revealed distinctive patterns of living. They have shown how the organized way of life of a people inculcates patterns of behavior in its growing members and thus molds their personalities. These studies also afford valuable suggestions about the possible influences of a culture upon individuals whose native tendencies are at variance with the cultural standards. To what extent are crime and maladjustment attributable to these disharmonies?

The following description of the acceptable man of the Zuñi group of Pueblo Indians in New Mexico illustrates this influence:

Personal authority is perhaps the most vigorously disparaged trait in Zuñi. A man who thirsts for power or knowledge, who wishes to be as they scornfully phrase it "a leader of his people," receives nothing but censure and will very likely be persecuted for sorcery, and he often has been. Native authority of manner is a liability in Zuñi, and witchcraft is the ready charge against a person who possesses it. He is hung by the thumbs until he "confesses." It is all Zuñi can do with a man of strong personality. The ideal man in Zuñi is a person of dignity and affability who has never tried to lead, and who has never called forth comment from his neighbors. Any conflict, even though all right is on his side, is held against him. Even in contests of skill like their foot races, if a man wins habitually he is debarred from running. They are interested in a game that a number can play with even chances, and an outstanding runner spoils the game; they will have none of him *

In contrast with Zuñi values are those of the Dobu Islanders off the southern shore of eastern New Guinea. Their social forms put a premium upon ill will and treachery and make them the recognized virtues of their society. Marriage customs and economic relationships are colored with dour hostility. Treacherous conflict and cutthroat competition characterize all existence, and the successful man is the one who has cheated another of his place, who stresses his own gains at the expense of another's loss. Jealousy, suspicion, and resentment are respected reactions.†

The culture patterns in our western civilization are much more complex. This fact, together with the emphasis in democratic cultures upon respect for individual personalities, allows for a wider range of acceptable behavior patterns and should provide an environment conducive to the development of wholesome individuality and social cooperation. However, an examination of some of our economic motives of competition and our social motives of prestige and conformity would doubtless re-

* Benedict, Ruth, *Patterns of Culture,* reprinted by permission of Houghton Mifflin Company, Boston, pp 98-99.
† *Ibid,* pp 130-172.

veal many that contribute to maladjustment and the warping of personalities.

A culture pattern has its roots deep in the past of human experience, and our knowledge of its forces is still too limited to change it at will. Also, we know little about the exact nature of the interplay between a culture and the human personalities that it nurtures and by which it is modified. How pliable is the human personality? Can a person adjust to almost any situation by assuming an acceptable attitude? Can he use only certain building materials adapted to his unique personality, and will he inevitably become maladjusted if suitable materials are not available? Can a social order meet the needs of all the varieties of human beings that compose it? How much opportunity do individuals have to seek and find environments best suited to their nature and needs?

The world conflict among nations in this generation has been in a basic sense a struggle between democratic cultures, built upon the principle that individuals should have the freedom to build their own life patterns within the bounds of general welfare, and totalitarian orders, in which the life pattern of thought and action is imposed by governmental control. Germany under Nazi control illustrated the manner in which a rigid way of life can be developed in a generation through planned education and regimentation. Even a few months or years of military life can temporarily create automatons out of democratic citizens who then encounter difficulties in readjusting to the greater freedom and self-direction of civilian life. Some discharged servicemen who have shortly reenlisted have expressed their annoyance over civilian problems of living.

The survival of a democratic culture depends on the growing understanding by its members of the social processes involved in human relationships and the will to strive cooperatively to control these processes in the interests of human welfare both individually and collectively. Human relationships exist in communication between human beings. This communication is not only through words and symbols but also through all the media by which human emotions are expressed and interpreted. Muscle tensions may sometimes speak more clearly than words. This fact is illustrated in the greater difficulty of the deaf in interpreting "talkies" than the older silent movies where actors

needed to rely more on wordless means of communicating feelings through posture, gesture, and facial expression. The emotional climate of human relationships is as much a part of the environment in which we grow as the air that we breathe, the food that we eat, the ideas and feelings that we express through language and the arts, and the material objects that we create.

What part do these conditions play in making us what we are? Why does one individual become stunted or diseased; another, healthy and vigorous? Why does one become shy, self-conscious, and perhaps unsocial; another, bold and disagreeable; and still another, gracious, charming, and popular? Why does one person become a leader in some field of human activity; another, a scholar or an inventive genius; and another, a failure in whatever he undertakes?

Our understanding of the many factors continuously influencing our lives is too limited to give conclusive answers to such questions. We do not know, for example, to what extent shyness or timidity may be attributed to an inherited tendency that hinders an individual from reaching out and attempting to control his environment or to what extent this tendency may have been imposed upon him. Research and experience have partially singled out numerous factors, however, and we shall review some of the fairly well-established facts about the influence of environment.

The physical environment. That oft-quoted statement from Tennyson's Ulysses—"I am a part of all that I have met"—may be said of both the body and the mind of man. The body is dependent for its development upon food, water, air, and sunshine in the physical environment. The tendency of a person toward a certain stature is undoubtedly determined by heredity, but disease or the lack of proper nutrition, fresh air, and sunshine during the period of growth may cause a stunted body and mind, just as barren soil and winds may produce a dwarfed and deformed tree. Physical health, vigor, attractiveness, or deformity all affect personality. A frail, undersized, or deformed individual may be denied normal experiences in life and as a result become warped in his outlook. However, wholesome attitudes toward handicaps and well-planned, hard-earned compensations are recorded in the biographies of many of the

world's great personalities and demonstrated daily in the lives of our contemporaries.

Climatic conditions undoubtedly affect vitality and may even affect temperament. Some claim that cloudy regions have a depressing effect and that plentiful sunlight fosters a buoyant temperament. Differences in national characteristics have been attributed partly to climatic differences. Studies of achievement have shown variations in efficiency under different conditions of temperature, humidity, and motion of air. Physical efficiency appeared to be more affected than mental efficiency, though the inclination to do mental work decreased with increased temperature and humidity and with poor ventilation. Studies of the efficiency of factory workers, the achievement of college students measured by marks, and the accuracy of bank clerks have shown decided variations according to the season of the year. Moderate rather than the hottest or coldest seasons seem to be conducive to the highest efficiency. Evidence also shows seasonal variations in the kind and amount of crimes and of nervous disorders. Huntington has made extensive studies of the influences of climate and emphasizes its importance in character development; he points to the tropical regions as a prolific source of character weakness in Europeans (120).

Parasites or bacteria which may attack the human organism and sap vitality should be considered as possible causes of lack of energy. The devastating effects of hookworm in some sections of the Southern states and of malaria in various parts of the world are illustrations of this sort of influence. The influence of the geography of a region on personality may be seen most clearly in the lives of primitive peoples where geographic conditions have not been controlled by technology to the extent that they have in our modern mechanized civilizations. But the mechanization and resulting changes in the nature of our material surroundings and social relationships also have their influences. We should understand them if we are to exercise any large degree of self-determination with respect to our personalities.

The social environment. The changes wrought in Helen Keller through the mastery of language which brought her back into contact with human life illustrate the importance of the

social environment for the developing personality. Cut off from communication with other human beings at eighteen months by loss of sight and hearing, she lacked most human qualities until, through the persistent efforts of her teacher, she understood that everything had a name. This insight was not achieved until Helen Keller was nearly seven years old, but it enabled her to communicate with others and share her experiences with them; thus a new emotional and intellectual world was opened up for her. From that time on her development was rapid.

Cooley, the sociologist, has said of the human being:

He has no separate existence; through both the hereditary and the social factors in his life a man is bound into the whole of which he is a member, and to consider him apart from it is quite as artificial as to consider society apart from individuals. . . . That persons make society would be generally admitted as a matter of course; but that society makes persons would strike many as a startling notion.*

From birth we continuously build into our personalities our social milieu in the form of attitudes, beliefs, and habits of thinking, feeling, and acting. As McDougall has expressed it, "Society, like the Kingdom of God, is within us." Like the physical environment, our social world may stimulate or stunt the development of innate potentialities. It may afford us experiences that help to build up wholesome or unwholesome personality trends.

Early relationships with parents, brothers, or sisters are among the most potent of these social influences. The attitudes, ideals, and behavior patterns built up during those years profoundly influence later development of the individual. Harmonious relationships between parents and with their children promote a sense of security and confidence in the child. Friction and maladjustment in the home may cause insecurity and unsocial attitudes. An oversolicitous parent may foster timidity or dependence; undue severity or neglect are equally bad. Success or frustration in relationships with either parents or brothers and sisters may help to establish pictures of self

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* Reprinted from *Human Nature and the Social Order,* by permission of Charles Scribner's Sons, New York, pp. 5, 7.

that will affect later experiences outside the home. Cultural influences in the home develop interests and mold standards and ideals of conduct.

Measurement of the attitudes of parents and children toward religion, war, and economic problems show striking similarities, as do personality characteristics such as dominance or submissiveness and emotional stability. The mother's personality appears to be more influential than the father's. Even the position of a child in the family with respect to order of birth may affect personality. The oldest child is for a time in the situation of an only child; and when a brother or sister arrives, he must share the attention and affection of his parents. Jealousy and resentment rather than cooperation often result if the situation is not handled wisely by the parents. Youngest children are sometimes spoiled by not having to learn this lesson of sharing, and middle children may feel the urge to keep up with the older ones while they must yield a favored place to a younger brother or sister.

The status that an individual establishes in his play groups and in his early experiences in school may greatly influence his adjustments throughout life. Of course, success or failure in school tasks or play activities may produce very different effects in different individuals. Failure may produce discouragement and a sense of inferiority in one child resulting in a withdrawal from further effort, but in another it may spur him on to ultimate success. We can seldom be sure how much these differences are due to earlier experiences and how much to innate tendencies.

What are some of the characteristics of home environments in which well-adjusted children develop? In an attempt to answer this question investigators studied the home backgrounds of 120 high-school students considered to be very well adjusted. The majority of these children came from homes and neighborhoods that were good or excellent as to socioeconomic status. The majority of the parents considered that they had had happy childhoods and gave evidence of good health, emotional stability, and a harmonious home life. The children tended to be well rounded in their development and to recognize the value of social contacts in addition to scholastic achievement.

In spite of the fact that most of the homes were above average economically, 76 per cent of the children had secured part-time work, indicating initiative and a desire to be self-supporting. Eighty-one per cent of the families were congenial in their interests and activities, 84 per cent of the children confided in their parents; 88 per cent approved of the discipline that they had received, and 83 per cent of the boys and 62 per cent of the girls had not been homesick when away on visits, which indicated that for their age the group was well emancipated from the home. There was evidence of sufficient conflict and complexity in their lives to challenge their power of self-adjustment. A follow-up study four years after the first investigation showed that these children had maintained a good level of adjustment—several in the face of adversity. In the process of growing up "they had acquired an adjustability which is essential in meeting the varied life situations with which mankind is confronted in his journey from the cradle to the grave" (234).

One of the most significant findings in this study was the number of adverse factors in the lives of some of these children. Fourteen not only had been deprived of adequate physical surroundings but had been subjected to unfavorable home and neighborhood influences. Sixteen had been deprived of many necessities of life and of all luxuries. Open conflicts between parents, divorces, stepparents, rejection by parents, race discrimination, faulty discipline, severe physical handicaps, or limited scholastic ability were present in several instances. Yet none of these situations that might easily have caused warping in emotional development had prevented these particular children from achieving satisfactory adolescent adjustments. This study gives tangible evidence, frequently overlooked, that adverse surroundings need not prove destructive to the individual who possesses a sufficient degree of adjustability to cope with them effectively (234).

In what ways may we control environmental influences?

As a practical aid in self-direction, we need to realize that *how we react* to an experience is more important than *what happens to us*. By applying this principle we can control

many environmental influences and thus our growing personalities. We should also understand what has happened to us in the past and how we have reacted to these experiences; otherwise their influences may carry over into the present and affect our attitudes and conduct in ways that keep us on immature levels of adjustment.

Charlotte K., an only child, was rejected by a selfish and immature mother who felt that her artistic career had been ruined by the child's coming. After an unhappy childhood, Charlotte left home, put herself through college, and made a successful professional career for herself. In her personal life, however, she is often intensely unhappy and has frequent periods of depression when she may pour out to friends her bitter resentment of the lack of affection and care by her parents in childhood. Through friendship with older women she is continually seeking a substitute for her lack of mother love. Her emotional immaturity is also revealed occasionally in violent temper tantrums.

Charlotte has come to understand her past, but she has not yet accepted it philosophically and learned to control her reactions to her childhood unhappiness. She is continuing to repeat these reactions, and they, in turn, are probably harming her more than the original experiences. Resentment and hostility toward past injustices, fear or guilt about shortcomings, and sorrow over losses bind us to these conditions; insight and acceptance free us to choose new experiences more wisely and to meet them more effectively and happily.

Examine Your Own Environment

(In making this inventory bear in mind that many of your recollections may be distorted and unreliable)

How is your environment influencing you?

> Assume that you are preparing to write an autobiography that will reveal the important influences in your life. Spend a few minutes each day for several days thinking over your past life. Note the very earliest experiences that you can recall, and jot these down in your notebook under an appropriate heading. Talk about these memories with relatives if you are living at home, or write home to have some of them verified or expanded.

Jot down recollections of experiences; friends; and interests at different periods in your life, such as before you started to school, in kindergarten or the early grades, toward the end of elementary school, in junior high school, senior high school, and college. Include memories of experiences at home, in school, and outside, during summer vacation—anything that comes to your mind. In recalling specific incidents, beginning with the earliest that you can recall, note your emotional tone as you are thinking about each, also associations that come to mind as you are thinking about each incident. Try to account for these associations in memory.

Read the following suggestions, and enter under the suitable headings your recollections about past conditions and experiences and your judgments about your present environment.

Material and cultural environment Note comfort; luxuries; bare necessities or lack of them; adequate or inadequate food; extent of cultural advantages, such as books, periodicals, music, art, theaters; extent of opportunity for wholesome play and recreation.

Relationships with parents: Note apparent attitudes of mother and father toward yourself, e g., oversolicitude, deep interest, little concern, or indifference, type of discipline domineering, strict, emotional, rational, encouraging self-dependence, overindulgent, etc , degree of affection evidenced and how exhibited, disposition of parents, e g , cheerful, even, unstable, irritable, depressed, attitude of self toward parents, as worship, desire to sacrifice, annoyance, bitterness, dependence, rebellion; extent of confidences and companionship with parents.

Relationships with brothers and sisters· Note any comparisons that may have been made between your abilities, appearance, or achievements and those of brothers or sisters, amount of affection, companionship, competition, jealousy, or friction: any tendencies of parents to favor others above self or vice versa, position and status of self in the family group

Relationships outside the home· Note degree of success in making friends and getting along with others; relative age of friends; attitude of self toward others, e g , aggressive, submissive, deeply interested, indifferent, status in groups, e.g , accepted, ignored, teased, number and closeness of friends; types of persons chosen as friends.

Religious and ethical standards: Note both your own and your parents' attitudes toward and degree of interest in religion; any difference of attitude between yourself and your parents; your own lack of consciousness of religious experience, of need for religious security; conscientiousness, sense of sin or guilt, prejudice, open-mindedness or tolerance; any conflicts over moral standards or new concepts about life.

Friends and associates. Think of one or more of your most intimate friends and closest associates at different periods in your life. List the outstanding characteristics of each friend, why you liked him or associated with him, why you think each one liked you or associated with you, how you think that each one influenced you.

Ideals and aspirations: List and describe briefly any people whom you idealized or worshiped at different times, and indicate how you think that they influenced you; also list ambitions or strong desires that motivated you at different times.

Significant experiences· List and describe briefly the experiences that you think have had the most lasting influence in your life, and suggest how you think that they may have affected you. Include achievements, failures, love affairs, and any especially happy or unhappy experiences. Give attention to seemingly insignificant episodes if in attempting to recall past experiences these episodes are frequently recalled.

Summary of your environmental influences: Examine your notations under the eight headings above to ascertain which influences seem to you to have been desirable and which undesirable in your life. List the more important ones under the two headings: desirable influences, undesirable influences.

How may environmental influences be controlled?

Prepare a chart in your notebook like the one on page 277. Read over the suggestions in Column 1 describing ways in which you might control undesirable environmental influences. Consider what might be undesirable as well as desirable results of each method. For example, might the removal of an undesirable influence involve cutting yourself off from certain favorable influences that are an inseparable part of the eliminated environment? Again, might the building up of mental barriers against a certain set of

1	2
Ways of controlling undesirable influences in the environment	Situations in which each method might be used
Remove the undesirable influence by getting out of it, breaking away from certain associates, etc. Build up barriers to an influence that cannot be avoided, *e g*, not reacting to it	
Control the influence by the way in which you react to a situation, so that it may even be turned to good account	
Other ways	

influences tend to establish the same habit in other areas and thus hamper giowth? In Column 2 list as many situations as you can that might be handled successfully in each of the ways suggested.

Prepare a chart in your notebook with the column headings given below. In Columns 1 and 3 enter the information designated in the headings. List in Column 2 ways in which you think that you can control unfavorable aspects of your present environment, overcome any undesirable influences of your past environment, or turn either one to good account In Column 4 list ways in which you think that you can make the most of favorable aspects of your environment.

1	2	3	4
Unfavorable situations in my environment	Ways of controlling them	Favorable situations in my environment	Ways of utilizing them

List in your notebook under an appropriate heading specific suggestions for choosing environmental influences that you think will help you woik toward the sort of personality that you wish to be.

Suggested Readings (see Selected References, pp. 471-483): 16; 41, 59, 180, pp 45-124, 301, pp 127-175.

METHODS OF SELF-APPRAISAL

What is the nature of the appraisal task?

Man's agelong desire to understand himself has led to the development of innumerable methods and systems of personality appraisal. Scientific research has confirmed or discredited many of these and is ever adding new ones. Also clinical experience is continuously increasing our knowledge about human beings. Interest in the appraisal of our human resources has been heightened by the man-power problems of two world wars in the last thirty years. In wartime it was necessary to use quick methods of allocating man power, and psychologists cooperated in the use of available tests and other appraisal instruments and in the development of new ones for the classification and assignment of individuals in the armed forces. Guidance services have also been made available in separation centers, the Veterans' Administration, the United States Employment Service, and community and educational agencies.

During this gigantic task of mobilizing and demobilizing millions of men and women our knowledge about personality appraisal has been increased and much valuable help has been rendered to the country and to individuals; of necessity, mistakes have been made. Among present dangers are the over-optimistic dreams of some people of the possibilities for quick and easy appraisal of human beings and the temptations of others to capitalize on the widespread interest in this problem by selling their services to the public.

A soundly trained clinical psychologist can help us to understand mental and emotional assets and liabilities, which we may not be able to discover without assistance. However, a brief study cannot reveal all the trends of development in a complex personality. Long-range study is required, and it must draw upon many sources of information and involve the active participation of the person being appraised. Mutual study with

a counselor, clinical psychologist, or psychiatrist is likely to yield the fullest and soundest self-knowledge. Such study should help one to develop techniques of self-appraisal and self-direction that will be valuable throughout life. One of these techniques is to know when expert help is needed and how to select a reliable service. In this chapter we shall consider methods of appraisal that may contribute to self-knowledge.

Does the "character analyst" give us any dependable information?

Apparently these "character analysts" give many people what they think they want or need, since so many have a lucrative practice. Some of them advertise as "Doctor of Psychology," or "Analyzing and Consulting Psychologist," or assume a title with a metaphysical implication. There are correspondence "schools" or "colleges" that grant these titles for a theme and a fee. Radio programs have become prolific sources of revenue for some of these pseudo-consultants. Quackery can usually be detected by the fact that the would-be psychologist has the perfect answer to his client's problems —for a fee; sometimes, for another fee, he will prepare the client in a few lessons to give the same service to others. Almost always he will tell a person exactly what he should be and do in life (214).*

Most systems used by these "character analysts" are based upon the assumption that certain physical characteristics are associated with certain mental traits. Physiognomy, which has had many exponents, purports to analyze character on the basis of physical features of the face, body, and cranium. Lavater, one of the earlier exponents, formulated *One Hundred Physiognomical Rules*, a specimen of which reads as follows: "A broad brown wart on the chin is never found in truly wise, calmly noble persons." Color and profile are emphasized in most systems, and markedly different personality characteris-

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* The extent to which the public is duped by these untrained "consultants" is revealed by Lee R. Steiner in her book, *Where Do People Take Their Troubles?* Mrs Steiner studied these individuals by actually using their advertised services and therefore presents much firsthand, authentic information.

tics have been ascribed to blondes and brunettes and to those
with convex and concave profiles.

Phrenology, which originated toward the close of the eight-
eenth century, is based upon the hypothesis that each aptitude
or trait of character has its own particular localization in
the brain and that the relative development of each part of
the brain can be judged by the external shape of the skull.
Other systems of analysis depend upon handwriting, charac-
teristics of the hand, or lines on the palm.

Experimental studies to test the soundness of these methods
have almost invariably failed to substantiate them. We now
know that localizations in the brain posited for various func-
tions were wrong, and recent findings place emphasis upon the
reaction of the brain as a whole, even in simple mental
functions.

One interesting aspect of the ancient systems was the at-
tempt to classify human beings according to the so-called
"humors" of the body. Modern study of body chemistry has
demonstrated that the secretions of the endocrine glands affect
growth, mood, and activity. Some adventurers have tried to
classify human beings on the basis of the supposed dominance
or weakness of one gland or another in the "interlocking direc-
torate" of the ductless glands. Adrenal-centered or thyroid-
deficient types are among the classifications suggested. The
attempted groupings have involved much overlapping and have
until recent times been based largely upon the study of psycho-
pathic subjects. Sheldon's studies of general body build men-
tioned earlier (see page 255) used normal subjects and suggest
new approaches to this ancient question. His findings indi-
cated not a few types of human beings but a few components to
be found in varying degrees and combinations in every indi-
vidual. He believes that the endocrine glands form a part of
the basic constitutional structure and have a common source
with it rather than being a cause of the body build.

Numerous studies have shown slight but positive and per-
sistent relationships between certain physical and mental char-
acteristics. For example, there is a slight tendency for higher
than average scores on intelligence tests to be associated with
larger than average physiques. These are group trends, how-
ever, and do not hold true for all individuals. Studies of the

possible relationships between physique and other aspects of personality are being carried forward, and we may have more reliable criteria for human appraisal in the future. It is clear from present evidence that they will not involve the type classifications and the glittering generalities of the character analyst which are based upon superficial observations. Rather they will involve cautious predictions of probabilities that will reduce but not eliminate uncertainties with respect to emerging personalities. Intelligent life planning is too important to be based on superstitious beliefs and quackery which are on a level with the magic and patent-medicine panaceas of former days.

Although we do not know enough about the possible relationships between physical and mental characteristics to predict one on the basis of the other, we have a good deal of evidence about the effects of various physical attributes upon attitudes and life adjustments. Size, health, beauty, deformity, and other specific physical factors may influence the growing personality in ways that should be recognized and understood. The frequent effects of undersize or physical inferiority in men or of unattractiveness in women shown in inferiority attitudes or ineffective compensations for these conditions are a matter of common observation. The blustering little man, the unsociable recluse of either sex, and the unpleasant, sarcastic, ugly woman, to mention only a few examples, are sufficiently numerous to warrant the suspicion that there is often a causal relationship between such physical characteristics and troublesome personality traits.

We all have our strong and weak points physically. It is important to recognize them, then to develop the strong ones and to overcome or compensate for the weak or undesirable ones. It is better to gain satisfactions through assets than to grieve over liabilities. A thorough examination by a physician and a frank talk with a physical-education expert often lead to healthful self-appraisal and the establishment of a wholesome regimen of living in conformity with personal needs.

What are the newer methods of self-appraisal?

When we wish to determine the height of an individual, we use a measure of linear distance; when we wish to discover his blood pressure, we use a measure of force or pressure. Until

comparatively recent times we have had no measures of mental characteristics other than subjective judgments of human beings, inference based on observable behavior and relative success or failure in life's activities. Experience has taught us the economy of testing the strength and durability of materials to be used for building purposes rather than waiting to observe the results in completed structures. We have been much slower in applying this principle of economy to human lives, partly because of the complexity of the problems involved in developing measuring devices for plastic human materials. Much progress has been made in the last quarter of a century in acquiring scientific knowledge about the nature of personality and in the development of methods for appraising personality tendencies. Available tests are recognized to be imperfect as yet—probably in many instances more crude than the hand or foot for measuring linear distance. However, many of them have proved superior to methods other than that of the actual test of experience itself, which is often so very wasteful of human life.

One of the first difficulties, and perhaps disappointments, that an individual encounters in attempting to study himself scientifically is that he can find no ready-made classifications of personality types into which he may try to fit himself. The truth of this statement has been fully proved by much research. It can easily be demonstrated to one's self by an attempt to catalogue friends according to a system of classification such as cheerful and sad, irritable and placid, intelligent and stupid. One soon finds borderline cases that could not be placed accurately in any group. If those to be classified represented a sampling of the population, and if they were rated or measured fairly accurately as to the tendency in question, they would undoubtedly be distributed according to a normal probability curve; *i.e.*, a few would manifest the tendency in an extreme degree; a few would manifest the opposite of the tendency in an extreme degree; and the majority would range somewhere between these two extremes. The findings would give a curve somewhat like the one shown on page 283, though it would probably be less regular.

This distribution has been found true for most types of individual differences that have a basis in heredity. It makes the

problem of self-knowledge that of discovering the strength or weakness of particular traits or tendencies rather than that of classifying one's self as of a particular type. We shall consider briefly some of the available methods for appraising aspects of personality.

Standardized objective tests. These are usually paper-and-pencil tests with a series of questions, exercises, or described situations to which the individual must respond according to
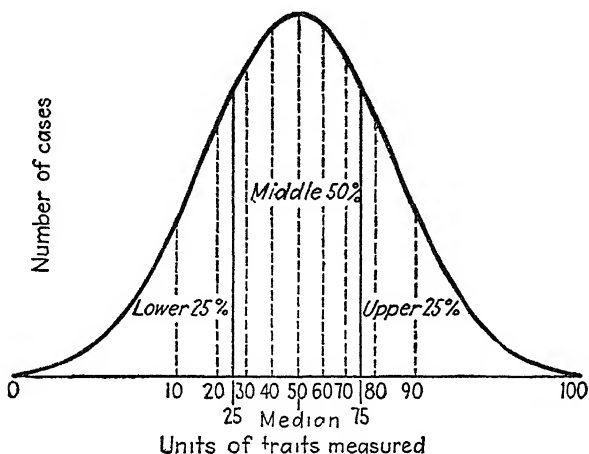
Fig 6 —A normal probability curve.

prescribed directions and often within certain time limits. In some cases the test is given orally or consists of a series of manipulative activities. Materials included in the tests are chosen on the basis of sampling the types of situations that call forth reactions characteristic of the tendencies being measured.

These tests are "standardized" by being administered to a sufficiently large number of people of given age, sex, or other conditions to represent a sampling, and norms are then determined on the basis of test scores made within a group. Thus, any individual may be compared with others in his group as to the relative extent to which he possesses the tendencies being measured.

One method of stating the norms is in percentile scores which make it possible to discover what rank any individual taking the test would have within a representative group of 100 mem-

bers. In Fig. 6, page 283, certain percentiles are indicated by each vertical line within the area of the normal probability curve. If this chart represented the heights of 100 persons, the line marked 10, *i e.*, the 10th percentile, would represent the person ranking tenth in height from shortest to tallest; the 40th percentile would represent the person ranking fortieth in height from shortest to tallest. The person placing at the 90th percentile would be taller than eighty-nine of the group and shorter than ten of them. For the person placing at the 50th percentile, or median, there would be an equal number of persons shorter and taller within the group. Notice that percentile differences in units of height would be smaller near the middle of the curve than at the two extremes. Percentile scores may be misleading unless this fact is recognized. Actual differences in height, for example, will be much less between those at the 50th and 55th percentiles than between those at the 90th and 95th percentiles.

Another convenient way of locating one's self relatively is to discover whether one stands in the middle 50 per cent, above or below the median, or middle of the group, or in the highest or lowest 25 per cent (see unbroken vertical lines in Fig. 6, page 283). If the grouping were by quintiles, one could discover in which fifth of a group, from highest to lowest, he stood. Oftentimes interpretative norms allow for still more precise location of one's position on a normal probability curve.

There is always the possibility that an individual will vary his score on a test, if it should be repeated; therefore, interpretations in terms of position in a group are preferable to other interpretations, since they indicate a tendency rather than a definite index of absolute ability. Any test score should be interpreted in terms of how an individual varies from other individuals in the degree to which he possesses a trait or characteristic—not according to absolute standards.

After relative position in a group has been determined with respect to the characteristic being measured, the problem of interpretation becomes that of predicting what this may indicate as to possible behavior or achievement. No perfect system of "fortune telling" has ever been developed with respect to any group of characteristics measured, but rather surprisingly accurate predictions have been made on the basis of

some.   Tests of general intelligence, which were among the first to be developed in this field of human measurement, have been widely used in educational institutions.   Those individuals with relatively high scores on intelligence tests have tended to receive higher marks in school subjects and to progress further in their education than those with relatively low scores.   However, there are many individual exceptions, which have been accounted for in some cases by other characteristics, such as industry or laziness, interest or indifference, health, or special aptitudes.   The exceptions have shown that no completely accurate prediction of academic achievement can be made on the basis of intelligence alone, except perhaps for those in the lowest ranges.

Over a period of years many colleges have conducted studies on the relationship of educational achievement to batteries of tests of aptitude and achievement and to other data such as marks or trait ratings.   Because of their predictive value, some of these types of information are frequently used as a basis for admitting students to colleges or to fields of study. Educational aptitude-test batteries proved especially valuable in World War II in predicting achievement in some Army and Navy training courses where there was more uniformity than is customary in most civilian programs.   Great progress was made in the development of instruments for the selection and evaluation of trainees in aeronautics.

Similar studies in business and industry have led to the use of batteries of tests and other standards in the selection, placement, and promotion of employees.   For more than ten years the Occupational Analysis Section of the United States Employment Service conducted research in the analysis of thousands of jobs and of workers and prepared many test batteries for use in job placement.   This research is still continuing.

All these methods need to be used cautiously, since there is a wide realm of unpredictability in human life that has not been brought within scientific understanding and control. However, scientific measurement and prediction have been important agencies in reducing chance and guesswork and will continue, undoubtedly, to contribute increasingly to the solution of human problems of living.

What aspects of personality can be measured by objective tests?

INTELLIGENCE, OR SCHOLASTIC APTITUDE. The measurement of general intelligence was one of the earliest efforts in this field, and many fairly reliable tests are now available that will reveal a person's degree of intelligence in relation to the general population or in relation to members of a particular segment. General intelligence, like most aspects of personality,
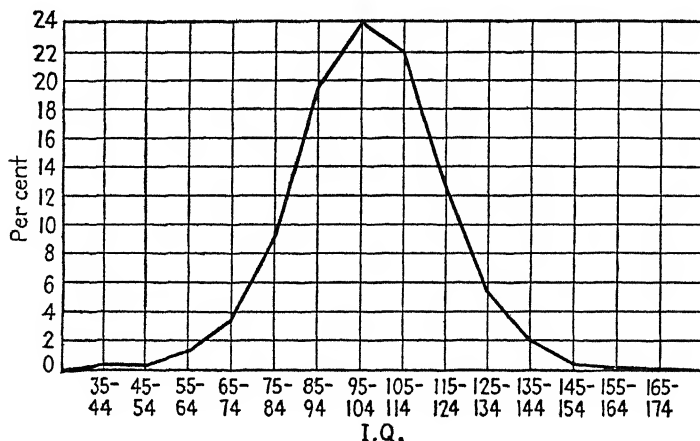
FIG. 7.—Distribution of I Q.'s of 2904 individuals, ages two to eighteen.

is difficult to define, but it involves the capacity of the individual to adjust himself to new situations through the use of what has been learned before—the ability to see relationships and exercise practical judgment. It involves his capacity for carrying on the higher mental processes dealing with symbols and abstract thought. The degree of intelligence of the individual depends on his capacity to form complex patterns of meaning out of the elements of his experience. General intelligence includes many of the abilities required to do successful academic work and is frequently called academic intelligence or scholastic aptitude.

The measurement of intelligence has shown that members of the population at large vary from the stage of incompetency, which we call idiocy, to the stage of extreme giftedness or genius, with the great majority ranging between these extremes. Figure 7 shows this range in intelligence for a large

group of individuals. The tests have also shown that mental ability increases gradually as the individual advances in age up to a certain point—probably about mid-adolescence. However, the degree of intelligence tends to remain relatively constant. A particular individual may, of course, fail to manifest his real capacity on a test or may be temporarily retarded in his development.

The mental age of an individual at any one time is ascertained by comparing his score on a test with the average score of others at various age levels to the upper limit of age norms for the particular test. Degree of intelligence is usually expressed in terms of the I.Q., or intelligence quotient, which is computed by dividing the mental age by the chronological age or its statistical equivalent.* An I Q of 100 is the average for all ages. Among high-school and college students, the average I.Q. would be higher than 100, since selective influences have eliminated many with very low I Q.'s. For these groups relative position or rank, explained above, is frequently used as a basis of comparison.

We have already considered the relationship between intelligence and general academic achievement (see pages 284-285). Comparisons of the test scores made by students majoring in different fields of academic study have shown some differences in level of intelligence, probably indicating that requirements for success vary somewhat among subjects and departments. Tests of thousands of workers in various occupations have also shown marked differences for widely divergent types of work, though there is much overlapping of scores among the various workers. Such studies have made possible the approximate rating of occupations according to the intelligence required of the worker.† The wide range of intelligence among workers within any particular occupation complicates the problem of trying to use knowledge about one's own degree of intelligence in vocational planning.

With our present knowledge, information about one's own

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* The revised Stanford-Binet test corrects the chronological age after thirteen by dropping one out of every three additional months up to sixteen years and all additional months beyond that age. This is done because of the decrease in yearly gains on the test after the age of thirteen.

† See pp 494-496, for such ratings of a selected group of occupations.

intelligence level can best be used negatively to determine what occupational fields one should not enter. Work that makes too severe demands upon one's ability is fairly sure to result in confusion and inability to cope with its problems. Also, work that demands too little of one's powers frequently causes lack of interest and social uncongeniality.

Intelligence as judged by tests and other objective evidences should never be used as the sole determiner in making decisions. Although it is an exceedingly important factor, it falls far short of giving us all the information that we need about ourselves. Lewis M. Terman, a leader in this field, says in regard to the use of intelligence tests in education and vocational guidance:

They do not tell us whether the pupil is more gifted in the scientific or the humanistic studies; whether, in case he leans to science, his ability and interests fit him better for the physical or the biological sciences; whether, in case he leans to the humanities, he is best fitted to succeed in linguistic or creative literary work, in the social studies, or in one of the fine arts. What is perhaps fully as important, the intelligence tests do not tell us anything about the numerous personality traits that influence so profoundly one's success in this or that career. (227)

Terman concludes from his study of the adult achievement of gifted children whose careers have been followed for sixteen years that "above the I.Q. level of 140, adult success is largely determined by such factors as social adjustment, emotional stability, and drive to accomplish (231, p. 84). In the selection of salesmen, for example, it has been found that intelligence tests eliminated a large number of poor workers but did not result in the selection of best salesmen. Beyond minimum requirements in mental ability, other personal qualities seemed to have a more important influence on ability to sell (213, p. 99).

A few of the scholastic-aptitude tests for college students yield scores for several kinds of aptitude. One gives scores for linguistic ability and for numerical or quantitative ability; another is designed to measure verbal comprehension and reasoning, quantitative reasoning, mathematical aptitude, spacial visualizing, and mechanical ingenuity. Much research is

needed as to the possibilities of predictions in fields of college study on the basis of these various scores.

APTITUDE AND ACHIEVEMENT IN ACADEMIC FIELDS. Standardized tests are available for measuring probable or actual proficiency in the various subject areas. Some have been constructed for the purpose of predicting and others for evaluating achievement in skills, knowledge, and thought processes. Both types of tests call for the use of previously acquired skills and information, but so-called prognostic tests usually involve the thought processes and basic skills required in the study of a particular subject more than specific information and techniques. When the use of information and special skills is required in a prognostic test, it is assumed that interests and native abilities will have resulted in their acquisition before formal study is begun. Achievement tests draw more heavily, of course, upon specialized information and skills. Either kind of test may furnish valuable data to use in connection with other evidences of interests and abilities in planning a suitable program of study. Indirectly, such information is valuable in making plans for future vocational activities. For example, a person with limited ability or poor achievement in mathematics should question seriously the wisdom of a vocational goal in the field of engineering. Achievement tests especially help the college student to evaluate his general cultural background of understanding about the material and social world.

There are more tests for the measurement of aptitude in mathematics and foreign languages than in other subjects. Tests of competence in the broad areas of general education, such as the language arts, social sciences, and physical and biological sciences, have been used widely in recent years. One difficulty encountered in the use of most of these special tests is that results are not always comparable, so that one cannot be sure oftentimes which scores show the strongest aptitude or achievement. Your counselor can help you to interpret them by comparing test records with your past academic achievement.

SPECIAL ABILITIES, OR APTITUDES. What are aptitudes? One person with no formal training in the theory of color and design may arrange flowers in a vase and produce a bit of still life very pleasing to the eye, whereas another's efforts may

annoy someone with "artistic sensibilities." The first one, we are prone to say, has a "knack" that the other lacks. Again, two people with equal musical training may hear a selection once; one may be able to reproduce it on an instrument, whereas the other cannot. The first, we say, has the knack of playing by ear. We might list other examples that would show a knack of tinkering with the radio, the family car, the sewing machine, the lawn mower; of dealing with people, handling business affairs; or of mastering academic subjects. Again, we may observe that any one individual possesses the knack of doing or easily learning to do some things very well, that he seems to do other things with only fair skill, and that he is awkward or bungling about others. These differences in capacity to achieve in various fields of activity we may think of as aptitudes.

There is no general agreement about the possible human aptitudes. The term "aptitude" is used somewhat loosely to cover both broad groupings of related abilities and quite specific skills or types of behavior. An example of the former is mechanical ability in dealing with concrete things as contrasted with ideas or people. Tests of this ability draw upon groups of factors such as ability to perceive the sizes, shapes, and space relations of objects and to think quickly and clearly about these relations. They may involve seeing how the parts of a mechanism fit and work together, putting disassembled parts together, or finding what is wrong with a machine. General mechanical ingenuity appears to be independent of general intelligence. It should not be confused with specific manual or motor skills that require coordination of eye and hand, steadiness and quickness of movement, and hand or finger dexterity.

Studies have shown a fairly regular increase in scores on tests of mechanical ability between the ages of eleven and twenty. No significant sex differences have been shown, except on tests that are influenced by previous practice. Since mechanical ability and manual skills are required in so many types of work as well as in other life activities, it would seem desirable for everyone to secure measures of his capacities in these respects. The most reliable tests in this field are individual-performance tests—not group paper-and-pencil tests.

Appraisal of past experience and achievement usually reveals considerable amount about one's mechanical aptitude.

In considering certain occupations it would be of value to study, in relation to mechanical ability and manual skills, the aptitudes required in clerical and in scientific pursuits. There are tests of general clerical ability that are similar to verbal tests of intelligence. Specific clerical tests measure abilities in clerical work such as filing, stenography, proofreading, or accounting. A test of aptitude for science or engineering * is aimed at detecting experimental bent, ability to differentiate good and poor definitions, the tendency toward suspended or snap judgments, ability in various aspects of reasoning, tendency toward caution and thoroughness, and ability in gathering, handling, and interpreting scientific data. Comparisons between test scores made by research students in physics, chemistry, and electrical engineering and ranks given by their instructors have shown a close agreement between these two measures of the students' scientific ability. The test shows promise of having considerable predictive value for an individual interested in scientific research.

Musical talent has been the subject of much research. The Seashore tests are the oldest and best known in this field of aptitude. They consist of phonograph records that call for the detection of minute differences in pitch, loudness, time, timbre, and rhythm and that measure tonal memory in terms of the ability to detect which note in a series of tones is changed when the series is played a second time. These abilities would seem to be important for both musical performance and musical appreciation. The tests have proved helpful in predicting musical achievement and are used in some schools of music as one basis of selecting students. There are also paper-and-pencil tests of musical information, appreciation, and accomplishment.

Artistic, like musical, talent has many components. Tests in this area draw upon artistic judgment as to the merits of pictures and other objects as well as the performance of tasks representative of what an artist does. Research indicates that

* Zyve, D. L., *The Stanford Scientific Aptitude Test,* Stanford University, Calif., Stanford University Press, 1930.

talent in art is of many types, however, and cannot be measured adequately in a simple test.

Batteries of predictive tests have been developed for some of the professions * and trades. They are based upon careful analyses of the activities and consequent abilities required, but no test or battery is adequate by itself. However, they may be suggestive when used in connection with all other available data regarding interests, past achievements, and total personality trends. What an individual can do at any one time furnishes one of the best indications of what he probably can learn to do.

Most of us have a few strong abilities, a few weak abilities, and many that are average. The problem of self-appraisal, therefore, becomes one of estimating our probable strengths and weaknesses and of trying to gain a comprehensive picture of the total pattern of our developing capacities. This total pattern of interrelated abilities is likely to be much more significant than any one strength or weakness. A lifetime of actual experience may not yield a complete picture of all one's potentialities.

Inventories and rating scales in the appraisal of personality. Many aspects of personality cannot be measured by objective tests. These personal qualities are, however, of great significance in social relationships and in educational and vocational endeavor. They should be appraised as accurately as possible if knowledge of self is to be gained.

Our knowledge about organized personality trends is continuously being enlarged through research. We now have numerous inventories of interests, attitudes, and behavior trends that can be scored objectively and interpreted for an individual in terms of his relative position in a group. Vocational-interest inventories have been developed that differentiate workers in various occupational groups and provide opportunity for an individual to compare his scores with those of the worker groups for which the test has been standardized. There are numerous inventories or scales for the measurement of attitudes toward economic, social, and political conditions and problems; of attitudes toward self and others; and of the

* Aptitude tests are being used and developed most extensively in the fields of medicine, nursing, law, engineering, and teaching

thought processes by which we weigh and interpret evidence, make judgments, and develop opinions and standards of value.

Among the complex personality patterns that have been inventoried are those termed introversion-extroversion, dominance-submission, self-sufficiency, sociability, self-confidence, and the tendency to be neurotic or emotionally unstable. Adjustments with respect to health and social relationships can also be examined more objectively on some of these inventories than by direct self-analysis. Most of these inventories are composed of series of statements regarding varieties of behavior, likes and dislikes, and attitudes to which the subject responds in the way to describe his most characteristic tendencies. There are no right or wrong answers, since each individual is unique in his combination of traits. It is difficult to decide sometimes what is one's most characteristic behavior in a type of situation that may call forth variable responses. However, when taken in a spirit of honest inquiry, these inventories may yield valuable information.

Another method of gaining self-insight is to record in a behavior journal from time to time how one feels and acts in particular situations. A thoughtful review of many of these anecdotal records may reveal tendencies of which one is unaware and give clues as to the causes of characteristic behavior. A real desire to understand both strengths and weaknesses and a tolerant sense of humor about idiosyncrasies are important for such study. The quaint old adage "All the world is queer but thee and me, dear, and sometimes I think thee is a little queer" needs restating in the light of our knowledge about human personalities. *Everyone, including you and me, is a little queer* would more accurately express the truth.

Rating of traits is quite widely used in schools and colleges in the securing of judgments of instructors and other school officials regarding students. These ratings are often used together with other data in the selection of students to be admitted to an institution. The method is also used by many employers and employment bureaus. It may well serve as one approach to the problem of self-appraisal, but the possibilities for error should be clearly recognized.

One difficulty in rating personality traits is the fact that an individual varies from time to time and from group to group

in the manifestation of these characteristics. As a result, people who know him in different capacities may rate him very differently. Other difficulties in securing fair ratings are the variations among judges in the definition and interpretation of traits, the influence of prejudice because of the emotional bias of the rater toward the individual rated and the various ways in which we tend at times to disguise or cover up our real selves. A satisfactory rating represents the composite of the ratings of several people competent to judge. One authority has recommended an average of eight ratings for satisfactory individual appraisal.

One form of rating scale provides opportunity for the rater to judge an individual in relation to a group according to designated categories, such as superior, above average, average, below average, inferior. This method has proved more satisfactory for the over-all evaluation of performance in a given area than for specific traits. For example, such rating of general effectiveness as a student, athlete, or social leader would be likely to be more accurate than similar ratings of industry, initiative, or cooperativeness. Comparisons are sometimes used in which each person in a group is paired with every other person and the name of the person adjudged to be superior in each pair with respect to the qualities or performance being rated is underlined. By counting the number of times each person's name is underlined, scores and ranks within the group can be obtained.

In rating scales for specific traits or characteristics, it is desirable to describe each point on the scale in terms of observable behavior in order to eliminate subjective variations in judgment as to what constitutes superiority or inferiority in a given trait. Space is frequently provided for listing instances of behavior that support a judgment. A portion of such a scale used in many colleges is given on pages 330-331.

It would be valuable for you to discover in what respects you are being rated and then compare your self-ratings with those on your personnel record or with other ratings made by people who know you sufficiently well to qualify as competent judges. It is usually more difficult to rate one's self than others accurately. Most persons tend to overrate themselves on socially desirable qualities and underrate themselves on undesirable

qualities, but some may underrate or overrate themselves quite consistently on all qualities.

Projective techniques.   In contrast to what is sometimes called the *atomistic* approach to personality through the study of specific traits or trends is that which is called the *global* approach.   This global approach to the study of the total personality utilizes what are termed *projective techniques.* These techniques provide opportunities through various media, such as ink blots, clay, nonsense syllables, pictures, stories, or dramatic play, for the personality to be projected in ways that can be observed, recorded, and interpreted.   Free association is the keynote of the method.

It is assumed that what a subject sees in an ink blot or expresses in story themes reveals fundamental personality processes that can be understood through interpretation.   The Rorschach Ink-blot Test is one of the best known of these techniques.   They should be administered and interpreted only by specially trained clinical psychologists.

Appraisal of trends of growth.   What we are in the present or may become in the future is vitally influenced by the past. Three important factors are (1) what we started with—our biological and social inheritance—(2) what has happened to us, and (3) what we have done with our opportunities, *i.e*, how we have met life.   There is continuous interplay of these three factors.

Each of us has his unique pattern of growth—unique with respect to abilities and personal qualities and also in the rate of development.   (It has been found that even the tiny bones in the wrist may develop at different rates.)   These differences frequently become very marked in the more complicated aspects of physical, mental, and emotional development and may profoundly influence the total personality.

During childhood and adolescence individuals of the same chronological age may differ greatly in their physical and mental maturity.   These differences are often disturbing to the adolescent, who may fear that he is abnormal in some respect, not realizing that he is merely maturing according to his individual pattern of growth.   Anxieties and a sense of inferiority may carry over into adulthood and continue to affect attitudes and life adjustments.

The attitudes and habits that we bring into each new situation are the outgrowth of our past experiences. The process of growing up involves learning to meet ever-changing conditions with appropriate variations in our patterns of feeling, thinking, and acting. Many of our inadequacies in personality and adjustment are a result of our failure to outgrow some of our childish habits and to develop the power of adapting our behavior intelligently to each new situation. Each experience should add to our understanding of effective ways of living and contribute to the development of stable but growing life values and purposes that may guide us in making new adjustments. The individual who blindly holds on to earlier ways of behaving or reverts to them under strain or who, on the other hand, experiments blindly without benefit of his own or others' experience is failing to grow up.

Many past experiences, particularly those with high emotional content, may continue to influence us long after they have apparently been forgotten. William Ellery Leonard in his autobiographical study entitled *Locomotive-God* describes an attempt to reconstruct his past experiences from early childhood in order to understand an obsessive fear that had come to dominate his whole life and prevent normal living. He found the apparent starting point in an experience at about two and one-half years of age, when startled by a locomotive at a railway station. Other experiences throughout many years, which had become involved with this forgotten reaction, resulted in the development of an overpowering fear which caused him much suffering and unhappiness.

One frequent result of battle trauma has been an intense anxiety state in which the memory of the terrifying battle experiences has been lost. Treatment that enabled the soldier to reconstruct his battle experience has often been successful in helping him to overcome the anxiety state and reorient himself.

All of us are influenced by a multitude of forgotten past experiences, some of which affect us in very undesirable ways. However, the study of self through the reconstruction of past experience presents many difficulties. Few people remember much about their experiences during the first few years of life

which are so important in the establishment of personality trends. Also, we often tend to repress or push out of our memory experiences that have been painful or unpleasant and to retain the memory of those which have been pleasant.

Many of the memories that have been lost from consciousness may be readily recalled by effort or an appropriate stimulus, but others do not seem to come at will. We may struggle to recall a word or name or fact and secure no response or clue. We may forget to keep an appointment or to pay a bill. In many of these failures to recall we can discover a conflict of motives or desires or an unpleasant emotional association which tends to keep the memories from consciousness. The term "unconscious" is used by psychoanalysts to connote those aspects of the mental life which either never were in consciousness or, previously in consciousness, have been repressed and cannot be recalled at will.

In addition to the apparently forgotten experiences, there are vague, not clearly recognized or fully acknowledged thoughts, desires, and sensations. In periods of daydreaming and reverie and in our dreams during sleep these activities predominate. Much of what is recalled from these experiences may seem strange or foreign to us. Much of it tends to be symbolical.

These tendencies have been explained by Freud through the concepts of a repression and a censor mechanism. According to these concepts an unpleasant experience or a thought or wish unacceptable in the conscious life because of acquired standards or ideals may be so completely repressed or pushed out of consciousness that it apparently is forgotten, never to be recalled, but it may appear later in a changed or disguised form which allows it to get by the "censor" and reenter consciousness. For example, the wish that someone would die may come to mind, but horror at the thought of entertaining such a wish may cause it to be repressed. In place of the former wish there may develop an unexplained fear or solicitude that the person may die. This might seem unexplainable or like a premonition if the earlier experience were never associated with it. A repressed sense of guilt regarding socially undesirable behavior may cause a person to become a rabid

social reformer without his being aware of the original cause of the drive for reforming others.

This return to consciousness of a repressed idea or wish in a disguised form may be accounted for on the basis of the energy that is associated with any drive to action. When an urge is not recognized and consciously controlled, or if it cannot be directly expressed, the energy remains attached to the repressed urge, and new outlets may be found that are acceptable in the conscious life of the individual. The sex drives are often involved in this mechanism because of the taboos and restrictions of society with reference to their expression and the resulting feelings of shame or guilt that become associated with them. The problem with this urge or any other is that of recognizing it and consciously controlling and directing it, rather than repressing and removing it from rational control. Many forms of bizarre conduct may result from the failure to establish this rational control.

Alfred Adler and his followers of the school of Individual Psychology have explained personality trends and behavior largely on the basis of patterns developed early in childhood, when a sense of inadequacy or inferiority tends naturally to develop out of the helplessness and dependence of that period. According to this theory a goal of life motivated by a natural craving for recognition of some sort is established as the result of this early feeling of inadequacy, and later trends can be understood and directed only as this early pattern is understood. Specific behavior patterns are interpreted as the result of this effort to compensate for the sense of inadequacy by achieving some sort of recognition or superiority. The individual himself may be unaware of the real causes of the motives that determine his behavior, because their foundations were laid before his critical faculties were sufficiently developed to enable him to understand them.

The forms of compensation that may develop are as varied as human beings and their experiences. One child who is frail and unable to adjust successfully in his play activities may strive for excellence in his studies; another may set up vocational goals that will bring him into a position of power and authority; still another may secure his satisfactions through unsocial and perhaps ultimately criminal activities. A physi-

cally unattractive child may become a recluse, denying the benefits of social relationships or may, perhaps, develop an unusually pleasing personality which minimizes the physical disadvantage.   Approached from the point of view of Individual Psychology, the important problems of self-discovery and self-direction are those of understanding the unconscious influences that have their sources in earlier experiences, of discovering to what extent a sense of inadequacy may be the result of distortions or exaggerations, and of consciously developing desirable compensations for any apparent limitations.

Whatever the explanation of the process may be, there is continuous interaction between conscious and unconscious influences.   Our likes and dislikes; our loves and hates; our ambitions; our fears, worries, and conflicts; our actions and inhibitions are thus determined.   Only by understanding this interaction can we truly understand ourselves.   Failure to note the repression of desires and unpleasant experiences and to find adequate and socially desirable outlets or substitutes for strong conflicting drives are common causes of unhappiness, ineffective living, and both physical and mental ill health.

Psychoanalysts have developed techniques for exploring the personality by utilizing the reverie, dreams, and association processes of the person studied and have thus been able in many cases to reconstruct experiences and to discover their influences on the personality.   Some interpretations of the psychoanalysts are still in the realm of unscientific guessing and imagination, but leaders in this field have accumulated considerable information about the significant influence of forgotten past experiences and have helped many to achieve better self-understanding and adjustment.

The extent of understanding of past influences that can be achieved by personal study depends largely upon the individual himself—how much wisely directed time and effort he invests, how objectively and impersonally he can approach the study, and how honest and courageous he can be in recognizing both desirable and undesirable tendencies.   Some claim that little insight into unconscious trends could be achieved without the aid of an expert psychiatrist or psychoanalyst.   However, few people can afford this service, and mental hygienists have found the autobiographical method a valuable substitute *when*

it is properly directed and not allowed to degenerate into
morbid introspection or superficial rationalization.

In making such a study it is important to check over one's
findings with someone familiar with the psychology of person-
ality and the principles of mental hygiene; if evidences of
serious maladjustment seem to be present, consultation with a
psychiatrist or clinical psychologist may often save much
future trouble. However, we all have imperfections in our per-
sonalities, and they need not cause concern unless they pre-
dominate; if they seem to, we should be sure that we are not
magnifying them. An accurate perspective is extremely diffi-
cult to achieve in studying self. A basic point of view which
should always be kept in mind is that all human beings are in
a process of becoming and that one's status at any given time
is relatively unimportant as compared with what one is be-
coming.

We are concerned here not only with those past experiences
which might result in ineffectiveness, unhappiness, or mental ill
health but also with those which will give clues to native
tendencies, basic interests, and developing trends and aptitudes.
Such a foundation of self-knowledge, supplemented by the in-
formation from objective tests and the judgments of those who
know us best, should provide a sound basis upon which to plan
the sort of life that we wish to lead. However, a complete or
thorough understanding of self cannot be expected from such
a study. Only the tests of actual experience throughout a life-
time can furnish that—and many go through life blindfolded
from themselves and gain but little insight from their experi-
ences.

The organization and interpretation of data. It should be
clear by now that personality cannot be appraised, either by
one's self or by another, through one cross-section study in-
cluding a few tests and inventories and some introspection or
interviewing. Over a period of time cumulated data of the
types described above should, if interpreted with the aid of a
trained personnel worker, reveal significant trends of develop-
ment with respect to abilities, interests, attitudes, habits, and
other personal characteristics. It is only as these various
aspects are seen in their interaction and development within

the total personality that a true picture of the individual can begin to emerge. This picture should agree with the realities of actual experience, and it is never completed so long as growth and experience are ahead.

SUGGESTED READINGS (see Selected References, pp. 471-483) 2, pp. 369-522; 177, pp. 69-236; 182; 212, pp. 327-348; 214, 236, pp. 519-586.

CHAPTER XX

MAKING A PERSONALITY INVENTORY

The purpose of this chapter is to guide you in beginning a systematic inventory of personality as a basis for intelligent planning. The nature of the inventory will depend in part on the resources available. If there is a counseling service in your institution, there will doubtless be cumulative records of your academic achievement and interests and activities, certain test data, ratings or other descriptions of personal qualities, and health information. Your counselor can help you to interpret these records.

If records are not available and tests and inventories are not used in connection with this study, you will need to draw more heavily on the informal methods suggested below. In either case the latter should be used to supplement more objective approaches. Keep careful records of your findings so that you can bring them together in a composite picture.

How well do you know yourself?

Stop for a moment, and think "I" very forcibly. Have you a clear-cut picture of yourself, or do you experience a series of vague and shifting impressions? Now think of yourself as a member of your family, as a member of your classroom groups, and as a participant in various athletic and social activities. Is the picture in each case the same, and are your feelings and attitudes similar as you visualize yourself in each group? Now try to think of yourself over a period of several years. Is your idea of yourself at present the same as it was five or ten years ago? Even a superficial introspection of this kind will doubtless reveal not only that you are constantly changing as an individual but also that you are in many respects different in the various human relationships that you may have at any one time.

If you analyze these images of yourself, you will probably

discover that the differences are attributable not only to your own ideas of how you look and act and feel in various situations but also to your imagination of what thoughts and attitudes other people have about you. The latter concept has been called by the sociologist Charles Horton Cooley the reflected, or looking-glass, self. He says:

As we see our face, figure, and dress in the glass, and are interested in them because they are ours, and pleased or otherwise with them according as they do or do not answer to what we should like them to be; so in imagination we perceive in another's mind some thought of our appearance, manners, aims, deeds, character, friends, and so on, and are variously affected by it.

A self-idea of this sort seems to have three principal elements: the imagination of our appearance to the other person, the imagination of his judgment of that appearance, and some sort of self-feeling such as pride or mortification. . . . The thing that moves us to pride or shame is not the mere mechanical reflection of ourselves, but an imputed sentiment, the imagined effect of this reflection upon another's mind.*

Any attempt to visualize the self shows how elusive, complicated, and varied it is in its development and manifestations, also, how important external relationships are in the determination of its trends and expressions.

If we are to act intelligently in helping to determine what those selves are to be in the future, we must understand them in the present in their various aspects and how these aspects work together to make us what we are at any time. We must also understand what factors influence the process.

Here, as in Chap. XVII, we shall compare our lives to material structures. Each step in the process of construction is determined by the architect's plan. Likewise, our human personalities are continuously being influenced by the pictures that we as architects and builders have of ourselves. There is the picture of what we think we *are*, the picture of what we *think* others think we are—the looking-glass self—and then the picture of what we think we *may be* in the future. Each picture significantly affects the developing plan and the growing personality. These pictures should fit into one another as

* Reprinted from *Human Nature and the Social Order*, by permission of Charles Scribner's Sons, New York, p. 152.

harmoniously as the different stories of a building fit together. Also they must be accurate and correctly proportioned just as the architect's plan of the building must be drawn to scale. Here is one of the most difficult problems faced by every human being.

> Oh, wad some Power the giftie gie us
> To see oursels as ithers see us!
> It wad frae monie a blunder free us,
>   An' foolish notion.

So often this looking-glass self that we see mirrored in the looks and actions of others is distorted, as though we were looking in a concave or convex mirror. Often the effect may be the result of distortions in our own pictures of ourselves which are serving as lenses through which we observe our effect on others.

When we stop to consider that all of us are likely to make errors in our judgments of both ourselves and others, we shall not be unduly concerned by apparent variations in our own and our looking-glass pictures of self. We may say with Byron, "Think not I am what I appear," realizing that we have a lifetime to impress others with our own pictures of self and to grow into our ideals of what we wish to be. Disparities between our own honest judgments of self and others' impressions of us should not result in bitterness but should cause us to beware of judging by outward appearances and to become tolerant of both ourselves and others.

Here are suggestions to follow in developing the three pictures of self:

Try to obtain an accurate picture of yourself based on study and experience instead of desire or wishful thinking, and do not feel discouraged or too elated about this true picture.

Try to keep your own picture of self as similar as possible to your looking-glass self, but do not become intolerant of yourself or of others if the two pictures do not harmonize.

Keep before you a clear-cut picture of what you wish to become; the outlines of the picture should seem reasonably attainable to you.

Many an individual who has entered college without the interest or aptitude required for success there has left with an unwarranted picture of himself as a failure and has proceeded

to impress that picture on his later life. The same story has often been repeated in ill-chosen occupations. An accurate picture of self, combined with attainable goals, will prevent such mistakes. And if these goals are challenging, they will not leave one content with past achievement.

A Greek mathematician once said, "The difficult thing of life is to know one's self; the easy thing, to advise others." It is certainly less difficult to formulate the preceding rules than to put them into actual practice. We unconsciously deceive ourselves in many ways. Pride or insufficient courage to face unpleasant facts may cause us to evade reality unknowingly; also temporarily unfavorable impressions of self may remain to warp our judgments and rob us of justifiable self-confidence.

PERSONAL INVENTORY

Prepare brief descriptions of your three pictures of self, including personal characteristics, what you can do, and your relationships with others, under the headings: What I think I am like now, What I think others think I am like; What I hope to be like someday.

Compare these three descriptions, and list any inconsistencies that you find among them.

For each of these inconsistencies list possible causes and map out suggestions for eliminating the differences.

Keep these records in your notebook for reference as you proceed in your study of self.

Health and physique. The importance of a health inventory has been stressed previously (see pages 120-129), and you may already have considerable information in this area. If not, you should confer with the appropriate official who can interpret for you the findings of your health examination. Here are some important questions to consider:

Have earlier illnesses impaired your health or interfered with normal activities in any way? Are any remedial measures indicated?

Have physical defects or handicaps interfered with normal adjustments? If so, have they been remedied? Have undesirable effects on your personality been avoided or overcome? If a defect or handicap cannot be overcome, have you developed a wholesome attitude and adjustment regarding it?

What are your chief strengths or assets with respect to health and physique? Are you capitalizing on these in your life planning?

What are your chief weaknesses with respect to health and physique? Are you overcoming these or adjusting to them wholesomely?

Do you have sufficient information about health hygiene to plan a regimen of living intelligently? If not, how can you increase your understanding while in college?

Aptitudes and abilities.

Scholastic aptitude. Practically all educational institutions have records of at least one test of scholastic aptitude for each student. Counselors may not consider it desirable for you to have your exact scores, but they will probably be willing to tell you your standing in relation to other students.

Ask your instructor or counselor to help you interpret your scores in terms of the probabilities for successful college work and for preparation for the vocational activities in which you are interested. The occupational rating scale on pages 488-499 may also give you rough estimates of the requirements for "abstract intelligence" in these types of work. If test scores are not available, your scholarship record in high school and college will give a partial basis for judging your general mental ability provided you have used your ability effectively in your schoolwork.

Special aptitudes. If your institution provides a testing service, you may be able to secure measures of several of the aptitudes mentioned earlier (see pages 289-292). Military-service records frequently contain test and other personnel data that may yield valuable clues. Some industrial organizations have developed aptitude tests for use in placing or promoting employees. These are often encountered by the college student in finding part-time or summer jobs and may afford him some self-enlightenment. Actual tryout experiences in such jobs also offer excellent opportunities for self-measurement through firsthand tests.

For most types of activities the total pattern of abilities may be more significant than the strength or weakness of a few. To work toward obtaining this over-all picture, keep

the records of your tests in one table with the headings listed below or others suggested by your instructor.

MEASURES OF APTITUDES

1	2	3	4	5	6
Name of test	Form	Date	Score	Rank, percentile, or other interpretations	Comments

What do past achievements indicate as to your abilities? Hints of strong, average, and weak abilities are to be found in any careful analysis of past experiences, though one must sometimes discount especially favorable circumstances or unusual training in evaluating the strength of potential aptitudes. One can start with the assumption, however, that any developed ability has its foundation in natural aptitude, though industry and persistence, or lack of it, and chance factors may have favored or hindered its development. Hull has attempted to analyze the relative strength of these factors as they are evidenced in many studies and estimates that, assuming each to be disentangled from the complex overlapping of the others, their respective contributions might be judged to be approximately as follows: capacity or ability, 50 per cent; industry or willingness, 35 per cent; chance or accident, 15 per cent (118). Such an estimate can scarcely be more than a rough guess and will vary considerably in individual cases. However, it may prove helpful in trying to analyze these factors in your own experience.

A systematic approach to an appraisal of abilities indicated by past experience is outlined in the table on page 308. Under headings such as appear in the "activity" column list all major activities that you can recall. In the second column try to list after each activity the major abilities required in each activity. This is one of the most difficult steps, since the whole range of human abilities has not been systematically catalogued. Some of the convenient major groupings would be intellectual, artistic, musical, scientific, literary, linguistic, and clerical abilities;

manual skills; physical ability; and social facility. You may wish to add others. In the third column try to estimate the degree of each ability evidenced in each activity by placing a check mark ($\sqrt{}$) in the appropriate subcolumn. Before making these judgments try to recall concrete evidences of the quality of your achievement in each activity in order to make your ratings as objective as possible. You may also wish to ask one or more persons who know you well to record their judgments for comparison with your own.

ABILITIES SHOWN IN PAST ACHIEVEMENT

1 Activity	2 Abilities required in each activity	3 Degree of each ability shown in each activity		
		High	Fair	Low
School subjects (list under major fields)				
General scholarship				
School activities (include all extracurricular participation)				
Home activities (list duties, volunteer work, entertainment, etc)				
Hobbies and recreational activities (list)				
Social, civic, and religious activities (list)				
Work experiences (include odd jobs, summer work, training experience, and regular work for pay, also include any military service or training)				

When you have completed your ratings, draw circles around the check marks that represent your very best and poorest achievements. These will give you a clearer picture of what activities to avoid and what to search for in contemplated occupations. If you have been fair with yourself in this checking, you will, undoubtedly, have check marks in each column. Such

an inventory is a good mental-hygiene exercise, aside from its value in educational and vocational planning, since it is fairly certain to increase both your self-confidence and your humility.

Using the results of this informal appraisal and any objective tests that you have taken, make three lists in your notebook designated as *Strong Abilities, Average Abilities,* and *Weak Abilities.* After making these lists, ask yourself the following questions · What special aptitudes possessed in high or fairly high degree by some of your ancestors do you apparently lack? (Refer to Chap. XVII in considering this question; also any personal inventories that you may have made while studying that topic.)

Have you any reason to suppose that any of these might be latent but undeveloped in your personality?

Interests. What and how can we learn about our interests? At first it might appear that interests would not require objective study, that introspection alone would yield reliable data. However, self-estimates of interest in specific subjects of study or occupations may have little value for sound planning. They may change markedly in a year's time. Trends of interest in broad fields of study or vocational activity show greater stability than more specific interests, though these trends undergo a process of gradual change. Many supposed occupational interests result from chance influences coupled with limited knowledge of self and the occupation. An individual may, for example, think that he is interested in law but not really have interests that are typical of successful lawyers.

Interests, like all other aspects of personality, develop and therefore may change. We must know how to study and trace these changes. The following statements are suggested as guides in the personal study of interests:

Specific interests are not inherited, but natural tendencies may partially determine to what we react and how. Individual variations in very young children probably represent these innate differences and determine to what attention is given, thus helping to lay out the field in which interests may develop.

Interests and abilities are related, but one cannot be used to predict the other, though interests may be suggestive of abilities. The relationship between interests and abilities would

seem to increase with knowledge of the occupational world and of personal qualifications.

Specific interests may shift and change, but these changes in interest are usually more radical or variable early in life than later and become more stable with increased training and experience. Earlier interests are likely to be the foundations of later interests.

There would seem to be a genetic development of interests throughout an individual's lifetime. The study of this trend is probably of great value for life planning, since it is more likely to be founded on stable factors than is any specific interest at a given time.

Approaches to the study of interests.

THE GENETIC APPROACH. Since developmental trends appear to be so important in determining basic interests, this approach will be dealt with first. One may attempt the study in two ways: by listing all recalled interests at specified intervals in one's life or by writing a spontaneous and continuous autobiography. An outline for systematizing the first method is on page 311. The actual notebook chart should provide sufficient space in each column to enter adequate data.

Before filling in the chart, think for 15 minutes or more about each of the periods designated. For a school period think of the classrooms, of your classmates, and of your teachers, of the school yard, and of school clubs or school teams. Think of the boys and girls you liked best, and try to recall their names. Think of your close friends. How did you stand in your school subjects in comparison with the others? Try to recall specific experiences, including both pleasant and unpleasant ones. What did you do during leisure time? After thinking over these experiences put down in order of importance under each type of interest the things that you liked best. Take plenty of time to think before writing.*

After filling in the chart, go over the items to note persistent and changing interests. Write a discussion of those items which seem to bear on the planning of present educational and recreational activities and on vocational and avocational planning.

* Adapted from suggestions given in Douglas Fryer, *The Measurement of Interests,* New York, Henry Holt and Company, Inc , p 370.

CHART FOR STUDYING INTEREST TRENDS

Interests*	Earliest memories	Entering school	Last years of elementary school	Junior high school	High school	Entering college	Now
Play interests							
Hobbies							
Reading interests							
School study							
Interests in people							
Immediate work interests							
Future vocational interests							
Life values and religion							
Any others							

* Some of these interest groupings will not apply to childhood.

An autobiographical approach may have a stronger appeal for some, since the study may be developed in story form and include both likes and dislikes. Before writing spend some time for several days thinking about your dominant interests during different periods in your life. Try to recall the earliest things that you liked or disliked, and start with these earliest interests. Do not confuse what you did well with what you liked best. Include vocational, educational, and social interests, also personality interests that came into your life. Make notes whenever you think of interests to be included in your autobiography.† When you have written this interest history, scrutinize it for significant trends as suggested for the interest chart, and list these for further study and interpretation.

† These instructions are adapted from those given in Douglas Fryer, *The Measurement of Interests*, New York, Henry Holt and Company, Inc, p 372.

A CROSS-SECTION STUDY OF INTEREST. After making a genetic study of your interests as they have developed in sequence, make a list of present interests of all sorts—a cross-section picture—and study them in the light of your interest history. Try to determine which present interests are closely related to past experiences and which are caused by immediate conditions or influences.

A more impersonal approach to this cross-section study is to examine lists of possible vocational, educational, and social interests, noting and recording your reaction to each. Several inventories of interests have been published, and your instructor or counselor may make some of these available to you.

Which of your present interests do you think are likely to be fairly stable and why? Which ones do you think are likely to change or disappear, and why?

INTEREST INVENTORIES. Research workers have experimented with the development of standardized interest inventories which could substitute objective appraisal of interests for subjective evaluation. One of these is the "Vocational Interest Blank," developed by Edward K. Strong at Stanford University. This inventory includes a wide sampling of the objects and activities in our environment. The individual indicates his liking, indifference, or dislike for many occupations, amusements, school subjects, different sorts of activities, and peculiarities of people. He also expresses his order of preference for listed activities, factors in work, eminent men, and positions in clubs or societies; compares his relative interest in numerous paired items; and rates his present abilities and characteristics in various respects.

Studies conducted with this inventory have indicated that occupational groups can be differentiated by their interests; i.e., "Men engaged in occupations so far studied have been found to have a characteristic pattern of likes and dislikes which differentiate them from men in other occupations" (221, p. 47).

Test blanks and scoring schedules are available for both men and women. Scoring keys have been developed for thirty-nine occupations for men and eighteen for women and for certain personality trends related to vocational interests. Research indicates that many of the occupations for which there are keys

may be classified into groups on the basis of somewhat similar patterns of interests. The lists and groups of occupations included in the footnote * give an idea of some present possibilities for exploring interests objectively with this inventory. The group scales are not so valid as those for occupations. Also low as well as high scores on particular occupations are

* SCALES FOR MEN

Occupational scales for men have been developed for coast guard, public-utility salesman, and osteopath in addition to those listed here Group scales are available at present for only six of the men's groups below· I, II. V, VIII, IX, X.

Group	Occupation
I	Artist
	Psychologist
	Architect
	Physician
	Dentist
II	Mathematician
	Physicist
	Engineer
	Chemist
III	Production manager
IV	Aviator
	Farmer
	Carpenter
	Mathematics-physical science teacher
	Printer
	Policeman
	Forest service
V	Y M C A secretary
	Y M C A physical director
	Personnel manager
	City school superintendent
	Minister
	Social-science teacher
VI	Musician
VII	Certified public accountant
VIII	Purchasing agent
	Office worker
	Accountant
	Banker

important in revealing an individual's pattern of occupational interests. Several high scores may suggest a type of work that would not be indicated by one of the scores alone. For example, a student with high ratings in forest service, personnel work, social-science teaching, advertising work, law, and journalism synthesized many of these interests when he decided upon public-relations work for the park service. In this case the usual career in forestry was discounted, since there were no significant ratings in groups II, III, and particularly IV (221, pp. 439-440).

The occupational-level score included in some of the profiles enables an individual to ascertain roughly where this interest pattern places him on a scale ranging from unskilled labor at one extreme to business and professional men at the other. It will not indicate specific occupational interests any more than will an intelligence score. Both scores may suggest high, medium, or low occupational level, but individual cases have been noted of very high intelligence and low interest rating.

The so-called masculinity-femininity and interest-maturity scores are the result of statistical analysis of factors involved

Group	Occupation
IX	Real estate salesman
	Life insurance salesman
	Sales manager
X	Lawyer
	Author-journalist
	Advertising man
XI	President of manufacturing concern

SCALES FOR WOMEN

The inventory and scales for women are being revised

Artist	Physical education teacher in high school
Author	
Dentist	Physician
Elementary teacher	Social worker
Housewife	Stenographer-secretary
Lawyer	English teacher in high school
Librarian (representative of author, artist)	Mathematics-science teacher in high school
Life-insurance saleswoman	Social-science teacher in high school
Nurse	Y.W C A. secretary
General office worker	Masculinity-femininity

in the inventory other than occupational pattern and level. Strong's studies of changes in interest with age have shown that these changes are greater before twenty-five years of age than later. However, he concludes that interest patterns on the average are surprisingly stable from fifteen years of age on. Early interests in some occupational groups tend to increase and in some others to decrease with age. Of course, average group trends may not hold true for individuals. All these factors complicate the problem of interpreting scores, and interpretations should be made only by well-trained guidance workers.

The possibilities of the Strong Interest Inventory for identifying avocational interest patterns have been explored by Donald E. Super. He concludes that the vocational scoring keys can be used in locating suitable hobbies; also that avocational interests may be of value in predicting vocational interests.

A different approach to the study of vocational interests is made in the Kudor Preference Record in which activities are grouped in pairs. The individual is asked to indicate which activity in each pair he likes most and which one he likes least. There are scores for nine areas: mechanical, persuasive, computational, scientific, literary, musical, artistic, social-service, and clerical. Comparisons of individuals' scores on the Kudor and the Strong inventories have shown some agreements and some disagreements on various comparable groups of occupations. Another widely used inventory of a quite different nature by Allport and Vernon, *A Study of Values*, provides a scale for measuring the dominant interests of personality according to Spranger's classification of six types of values: theoretical, economic, aesthetic, social, political, and religious. A comparison of scores on these six values may be thought provoking in relation to life purposes. There are many other interest inventories, some of which may be available to you through your college personnel service.

Interests in particular fields of study often indicate related vocational interests. There are numerous scales and inventories for somewhat objective exploration of these academic interests. Also, achievement tests may be suggestive of the strength of interests as well as abilities. Records of all interest

measures available should be brought together in your notebook for study as suggested on pages 307 and 309.

When all of your signs of interest are assembled, they are likely to group themselves into patterns suggestive of desirable life activities. Patterns of interests that harmonize with abilities are foundation stones in sound life building.

Personality trends. Persistent trends of behavior and their particular combinations help to determine the nature of an individual's life adjustment. We shall consider here a few of these trends for which objectively scored inventories are available. If you cannot secure your scores on some of these tests, you may be able to appraise your tendencies informally by means of the descriptions of the trends.

Introversion-extroversion. How interested are you in gaining more self-knowledge? The strength of this interest might be one rough measure of the degree of one's introversion. The introverted person tends to turn his energies inward; the extroverted person, to turn his outward in social contacts. The introverted person is described as reserved in the expression of his emotions, which may not be revealed even to his intimate friends. He lives much within himself and derives many of his life satisfactions from subjective reflection and daydreaming. The extroverted person, on the other hand, comes into contact with life eagerly and spontaneously, finding little difficulty in expressing his emotions freely. He usually makes many friends but may remain relatively ignorant of himself, since he is essentially objective and interested primarily in the outer world.

Large numbers of people have been rated for these tendencies, and the results have shown a continuous gradation from the introvertive to the extrovertive extremes, with the greatest number of individuals in the middle ranges, possessing some of the characteristics of each. Those in the middle group have been called ambivertive.

There are many scales for measuring this personality trend, and the use of one may help in gaining insight into your own tendency in this respect. Following are some of the characteristics significant in diagnosing a trend toward introversion (111, pp. 129-131). An individual may possess some of these qualities and not others and possess them in varying degrees.

CHARACTERISTICS OF INTROVERSION *

Limits his acquaintances to a select few.

Feels hurt readily, apparently sensitive about remarks or actions which have reference to himself

Is suspicious of the motives of others.

Worries over possible misfortunes.

Indulges in self-pity when things go wrong

Gets rattled easily, loses his head in excitement or moments of stress.

Keeps in the background on social occasions, avoids leadership at social affairs and entertainments.

Is critical of others.

Prefers to work alone rather than with people; prefers to work at tasks that do not bring him into contact with people.

Has ups and downs in mood without apparent cause

Is meticulous, is extremely neat about his dress and painstaking about his personal property

Blushes frequently, is self-conscious.

Pays serious attention to rumors.

Expresses himself better in writing than in speech.

Resists discipline and orders

Limits his acquaintances to members of his own sex.

Avoids all occasions for talking before crowds Finds it difficult to express himself.

Is a radical, wants to change the world instead of adjusting himself to it.

Is outspoken, says what he considers the truth regardless of how others may take it

Introspects, turns his attention inward toward himself

Prefers participation in competitive intellectual amusements to athletic games.

Is strongly motivated by praise.

Daydreams.

Is selfish.

Dislikes and avoids any process of selling or persuading anyone to adopt a certain point of view (except in the religious field).

Is sentimental

Prefers to read a thing rather than experience it.

Is extremely careful about the friends he makes, must know a person pretty thoroughly before he calls him a friend.

Shrinks from actions which demand initiative and nerve.

* From a list by Edna Heidbreder, University of Minnesota

Prefers to work things out on his own hook; hesitates to accept or give aid.

Talks to himself.

No attempt should be made to classify individuals in a categorical manner. H. A. Murray of Harvard University distinguishes five types of introversion: the *passive* individual who lives at a low level of intensity owing possibly to glandular balance; the *sensitive, avoidant, inhibited* individual who may be motivated by fear and a sensitive ego; the *reserved* person who manifests *protective diffidence;* the *dreamy, imaginative* individual, more absorbed in fantasies than in people; and the *contracted, perseverating* individual characterized by brooding and unusual attention to order, neatness, and precise detail. Murray recognizes that one individual may exhibit a combination of these tendencies and may also be both more extroverted and more introverted than most others. He suggests that extroversion and introversion be treated separately rather than as the extremes of a simple variable on the normal probability curve (163, pp. 238-242).

Study of introversion and extroversion has emphasized tendencies in the organized personality that may influence vocational, social, and emotional adjustment. The extremely introverted person will not work with people directing and influencing them so easily or perhaps so successfully as the more extroverted person; also the latter may be discontented and inefficient in solitary work. Leadership in face-to-face relationships is more likely to be achieved by the person with extrovertive tendencies. Most writers, artists, and scientists are supposed to tend toward introversion. It has been pointed out, however, that some of them are sociable enough but that their work requires the liking for thought and absorption.

The extroverted person, with his greater facility for making friends and establishing satisfying social relationships, usually has less difficulty than the introverted person in finding outlets for his emotional drives. A danger in extreme introversion lies in the tendency to repress emotions instead of finding desirable and satisfying means of self-expression. By turning energies inward and seeking satisfactions in daydreams or inner mental life, a person may cut himself off from the life about him, lose contact with reality, and find it impossible to adjust success-

fully in social relationships. Extreme extroversion may be associated with lack of insight into personal motives and drives and result in lack of desirable self-control and direction of activities. An understanding of dangers at either extreme can help to prevent or overcome them.

The person who is extremely introverted should try to establish satisfying social relationships in which he can find opportunities for self-expression. He may prefer a few intimate friendships to a wide circle of acquaintances, but he should strive to develop real interest in people and the world about him. His interests may be quite different, however, from those of the extroverted person. One ingenious researcher has used a test of campus information or gossip to measure introversion-extroversion by determining the degree to which students were in touch with their human environment or were recluses. How should you rate on such a test?

Ascendance-submission. In your face-to-face relationships in everyday life, who usually controls or determines a situation, yourself or one of your associates? The one who tends to dominate we call ascendant; and the one who tends to yield and adjust his behavior to the control of the other, submissive. An individual varies, of course, in his degree of ascendance ·or submission with different individuals, but if his behavior among different groups of his equals is studied, he may be rated approximately at some point on the scale between the two extremes of complete ascendance and complete submission.

The origins of either tendency probably reach far back into childhood. Physical size or energy, on the one hand, or frailty or physical defect, on the other, may be predisposing conditions. Early experiences involving considerable domination by others or opportunity to master or control others probably interact with innate tendencies to determine the trend. Anything that undermines or strengthens self-confidence may be a conditioning factor.

The dominant or ascendant person usually possesses some of the following characteristics: *

* These, together with others, are included in a test of this tendency by Gordon W. Allport and Floyd H. Allport, published by Houghton Mifflin Company, Boston.

Finds it easy to persuade or solicit others and to say "No" himself to a request or solicitation.

Is likely to take a conspicuous place in public gatherings, take initiative in introducing people and directing activities at social functions or elsewhere.

Is annoyed if he does not secure sufficient opportunity to express himself in conversation.

Easily leads a discussion or expresses his ideas in a group.

Is self-confident about the worth of his own ideas or plans.

Tends to insist on having his rights and may even try to get special privileges sometimes.

Participates in many activities in college and becomes recognized as a leader in numerous groups.

The submissive person usually exhibits the opposite characteristics. He keeps himself in the background, is reluctant about meeting people, is self-conscious, lacks confidence in his own ideas or plans, hesitates to disagree openly with the views of others, and may make no effort to stand up for his rights.

Either extreme is undesirable. The overdominant person may antagonize others and thus cut himself off from enjoyable associations. If he possesses tact and social insight, he may be able to utilize his ascendant tendency to achieve a desirable type of leadership. The oversubmissive person may fail to grapple with his environment sufficiently to make any effective adjustments. If this submissive tendency is combined with a strong degree of introversion, there may be danger of an unhealthy personality development, leading toward withdrawal from reality. A certain degree of aggressiveness is needed to meet and overcome difficulties. Intelligent self-direction depends upon knowing when to exercise leadership and when to be a good follower.

Self-sufficiency. Are you a "lone wolf" or a "clinging vine," or do you place somewhere between these two extremes? The lone-wolf type of person exemplifies one extreme degree of this trend toward self-sufficiency; and the clinging-vine, or "ivy," type illustrates one of the possible extremes in the other direction. Most people range somewhere between the extremes of independence and dependence on others. The self-sufficient person tends to do things alone rather than with others, to

endure troubles alone, and to solve problems by himself rather than to seek sympathy or advice. He can make his own decisions, is willing to bear responsibility alone, and can even become so absorbed in interesting work that he may not miss friendly associations. He is not much affected by the approval or disapproval of others and does not mind being "different" or unconventional.

A degree of self-sufficiency is important in a well-balanced personality. Without it, one is swayed by the shifting forces in his surroundings, and self-direction becomes impossible. A danger in too great self-sufficiency lies in the fact that we are essentially social beings and depend upon our relationships with others both for life satisfactions and for our best growth. The too self-sufficient person cuts himself off from much of value in life. If strong trends toward both introversion and self-sufficiency are present in the same personality, the dangers of inadequate social adjustments and emotional outlets previously considered are increased.

Research has indicated that *sociability* and *self-confidence* may be traits that vary independently; *i.e*, any degree of sociability may be found with any degree of self-confidence in a particular individual. More people, of course, show intermediate degrees of these traits than the extremes such as solitariness or gregariousness and hampering self-consciousness or temerity. Numerous other components of personality are included in some of the available personality inventories. Among these are· neurotic tendency, truthfulness or deceptiveness, suggestibility, tendency to alibi, intolerance, susceptibility to annoyance, sympathy, happiness, and masculinity-femininity. Some of the inventories deal with broad areas of adjustment such as home, health, social, and emotional. Your records on some of these inventories should yield valuable insights into your personality tendencies, especially if studied with your counselor in relation to other data regarding your experiences and adjustments. They will not, of course, give an over-all picture of your personality.

Attitudes. Do you tend toward conservatism or toward radicalism in most of your attitudes on public or personal problems? Do you have settled convictions about many matters, or are you open-minded? How fair-minded are you in weigh-

ing evidence and reaching conclusions on controversial issues? What is your tendency with respect to attitudes toward yourself? Do you usually underestimate or overestimate your abilities, achievements, mistakes, etc.? How self-critical are you? How critical are you of others? What are your attitudes toward war, other national and racial groups, international organizations, religion?

It is important to understand our attitudes in these respects, since they strongly influence the nature of our life adjustments. They are difficult to study objectively because they are so intimately related to our emotions and so often develop without awareness on our part. We have considered in Chap. XV how prevailing group attitudes are imposed on us so early that they come to seem like self-evident truths which should not be questioned. Some individuals who resent early domination by parents, teachers, or others may reject imposed attitudes of any sort and refuse to accept any point of view that savors of conformity, imposed authority, or whatever is related to the earlier experiences. These examples are only two of a multitude of complex influences that may determine our attitudes. They probably have a basis in our inherited predispositions as well as in our environmental influences. Differences in speed of reaction, ease of breaking habits, readiness to make snap judgments, or self-sufficiency may induce trends toward conservatism or radicalism. Age and circumstances doubtless are important also. The change from a youthful liberalism or radicalism to a middle-aged conservatism under conditions of financial success or heavy responsibility can often be noted.

The objective appraisal of attitudes is a newer phase of personality study, but numerous scales have been developed that are helpful in discovering attitude trends concerning many aspects of life, which one's own introspection might not reveal. We shall deal briefly with a few attitudes most significant for self-knowledge and self-direction.

CONSERVATISM-RADICALISM TRENDS OF ATTITUDE. Could your attitudes about economic, social, political, religious, or other public issues be described as reactionary, conservative, neutral, liberal, or radical? These five terms are generally used to designate degrees of opinion about an issue from one end of a scale to another There are, of course, degrees of variation

within each category. We may call one individual "pink" and describe another as "red" but think of both as radicals.

The sources of our attitudes are often locked so securely in our personalities that we not only do not know why we have certain attitudes but may not understand their true nature. We camouflage many things even to ourselves. Schooling sometimes has little effect in changing our attitudes. Some studies reveal practically no change in median scores on social-attitudes questionnaires from the eighth grade through college. Others show upper classmen to be more conservative in economic affairs and more liberal in religious matters than lower classmen. Changes have been reported after students have concentrated on the study of specific attitudes.

Objective appraisal of one's attitudes may often unlock avenues to self-discovery. When our attitudes can thus be brought out in the open and studied, they become subject to our control instead of controlling us.

FAIR-MINDEDNESS. You will not be asked if you are fairminded, for none of us would like to reply in the negative, and we are seldom aware of our prejudices. Here is a tendency about which we often deceive ourselves most effectually. The fact that we should not like to label ourselves as unfair-minded is perhaps sufficient evidence of the importance that we attach to fair-mindedness.

What are some of the clues that will indicate the presence of prejudices likely to prevent fair-mindedness in our judgments and attitudes? The following have been suggested (250):

Do you tend to consider distasteful one side of a controversy?

Do you consider a person incompetent or insincere who disagrees with your views?

Do you draw from given evidence conclusions that support your own bias but are not justified by all the evidence?

Do you condemn in a disliked individual or group activities that you might condone or approve in others?

Are you likely to consider both strong and weak arguments as all equally strong if they are in accord with your bias or all weak if in opposition to it?

Such questions serve as clues but are not all-revealing. An individual may be well informed and at the same time hope-

lessly prejudiced on a particular subject. When we find ourselves entertaining an opinion that we feel absurd, undesirable, or even wicked to question, we can feel fairly sure that we have struck a prejudice that needs to be examined. The investigation may result in the overthrow of the opinion, in its establishment on the basis of adequate evidence, or in its tentative retention until more evidence can be secured. The important point is to be able to examine our opinions objectively in the light of all available evidence, without concern as to the outcome.

ATTITUDES TOWARD SELF. How fairly do you judge yourself? Such attitudes may range through all degrees from extreme underestimation to extreme overestimation. We may underestimate ourselves in some things and overestimate ourselves in others, though one tendency is likely to dominate more than the other and give a prevailing color to our pictures of self.

Studies of college students have shown that large proportions of them suffer from feelings of insecurity, inadequacy, and inferiority (84). The particular combination of causes is as varied as the life histories of the individuals, but common factors appear repeatedly. Inferiority feelings among one group of graduate male students were associated frequently with one or more of the following conditions: having older brothers or being youngest or only child; low income and adverse socioeconomic status; a utilitarian philosophy of life; making few friends; lack of social contacts; and coming from large towns or cities (84). Factors revealed in other group or clinical studies are

Disappointment or chagrin over lack of social success or the inability to make or keep friends.

Friction or unwholesome attitudes in the home life that undermine the sense of security or prevent the development of normal self-dependence.

Disadvantages caused by race, family, economic conditions, or lack of social opportunities.

Self-consciousness over a real or imagined physical defect or lack of attractiveness, etc. The great majority of people possess some physical defects, but adolescents

frequently exaggerate them in their imagination and, as a result, develop attitudes that are much more handicapping than the defects themselves.

A sense of personal unworthiness or of sin caused by fear that external or self-imposed standards are not being met satisfactorily. This attitude may have its roots far back in early experiences that have robbed one of needed self-confidence and imposed a failure pattern. Again it may result from unduly high standards set by parents, friends, or self. Oftentimes a self-imposed standard may be the result of a sense of inferiority that causes a desire to assert and distinguish the self. Inadequate preparation or unsuitable tasks are often contributing factors.

Particular experiences such as shocks, disappointments, or humiliations. Such experiences are often repressed and forgotten and therefore not recognized as sources of later difficulties.

Self-consciousness, shyness, fear or anxiety in meeting people and expressing one's ideas are some of the more direct signs of an inferiority attitude. Oftentimes an individual will repress or camouflage his real attitudes and overcompensate for them by behavior of the opposite sort. This process may be compared with the person whistling in the dark to keep up his courage. A bold, gruff, boastful, or overconfident manner is often a smoke screen for a sense of inadequacy. Enough compensation in the form of simulated self-confidence to achieve a desired success is a help in overcoming a sense of inferiority, but unpleasant behavior patterns merely hinder achievement.

An all-pervading attitude of superiority seems to be much less common than its opposite. If you habitually feel superior to the people with whom you associate, it would be well to appraise your actual achievement and your effect upon others, also to seek associates who can engage you in severe competition. The oversuperior attitude may ultimately be more handicapping in social relationships than its opposite. A sense of inferiority can be overcome by achievement.

Our attitudes toward others are profoundly affected by our self-attitudes. The swing toward either the superiority or the inferiority end of the scale may result in an unduly critical

attitude with respect to others. The person who feels superior can always detect flaws in others that he himself does not possess. The person who feels inferior may, because of his exaggeration of his handicaps, be sensitive to them in others or imagine their presence. If we find ourselves perpetually critical of other people or imputing undesirable motives to them, it is well to turn the spotlight on ourselves and see what flaws need to be detected and eliminated.

MOOD TENDENCIES. What is your characteristic mood— gloominess, cheerfulness, suspiciousness, oversensitiveness, irritability, placidity, or what?

How permanent or changeable are your moods? Do you change without apparent reason from a cheerful to a depressed state of mind?

How intense are your emotions? Do you have strong loves and hates, likes and dislikes, or are you rather indifferent about most things?

How wide are the range and variety of your interests that arouse emotional reactions?

What part do emotions play in your daily life? Are anger, excitement, or eroticism easily controlled, or do they require much self-discipline? Are you a humdrum plodder, or do you put much imaginative feeling into your work? How do you react to success and failure, praise and blame?

These tendencies which are obviously important in vocational and social adjustment can be controlled and directed through self-discipline.

A composite picture of personality.

Thus far we have discussed traits and trends for which we have some fairly objective tests or inventories but which do not provide a complete or organized picture of personality. Much research in recent years has been directed toward securing more adequate pictures of the total functioning personality. The projective techniques described in Chap. XIX (p. 295) represent steps in this direction. If your college provides a clinical service, you may be able to secure some information based on these methods. Also your personnel record may contain cumulative data from earlier school years that

will reveal significant trends when interpreted by your counselor.

Some approaches to personality research might be compared with the work of astronomers in charting the stars and locating and naming clusters or constellations. Think of the total personality as a sphere with the individual starting at its center and manifesting his various characteristics on the surface. Lines drawn from the center to the surface of the sphere representing expressions of the individual would emerge at many points. Some of these points would form clusters on the surface of the sphere just as the stars are grouped in constellations. Psychological research is locating more and more of these surface points which we call factors of personality. Evidences that clusters of these traits exist are also emerging. Gradually a fairly composite picture of personality may take form, but we are still in the process of discovering new factors and of locating and naming new clusters or constellations.

The psychological structures of groups of people have been studied in a manner similar to that described above for individuals. These studies have revealed clusters or constellations in social grouping, some persons being "stars of attraction" to whom others gravitate as friends or associates, whereas some are "isolates" who neither choose nor are chosen by members of their groups as companions. These social situations range from almost complete isolation to extreme degrees of attraction or popularity. For a particular person they may vary from group to group and under different circumstances. It is valuable to study the attitudes of others toward us in order to understand and direct our behavior in ways to achieve satisfying social relationships.

The groups of paired traits in the footnote below are adapted from summaries of research dealing with personality description.* This is only a partial list but includes some

* In preparing this list, helpful ideas have been secured from the article by Raymond B. Cattell, "The Principal Trait Clusters for Describing Personality," *Psychological Bulletin*, 42:129-161, March, 1945 The groupings and traits included do not follow exactly those reported in this summary of research. One purpose of this list is to present to the student in nontechnical terms a composite picture of some significant aspects of personality to use in isolating personal characteristics for study. Another

significant aspects of personality stated in nontechnical terms. It should help you to formulate a list of traits for which no tests or inventories are available to use in further self-appraisal. You may wish to include characteristics upon which you are rated by your instructors or other college officials or that are used in selecting students for higher levels of training or in hiring employees in fields in which you are interested. Your instructor may help you to develop rating scales for these traits or supply certain scales for your use. Some of the best types of rating scales are described on pages 292-295.

On page 331 is part of a scale developed for use with college students. In using this scale list opposite each trait several instances that support your judgment, also any instances that may be inconsistent with the general rating of a trait. This will tend to make the rating more objective and also more revealing. Compare your ratings with those made by several individuals who know you well.

Note any marked differences between your own and others' ratings or between the ratings made by other persons. Also

purpose is to prevent the student from accepting a too simple, ready-made concept of personality such as he might gain from a few scores on one or more standardized inventories of personality.

1. General character:
   Loyal—fickle
   Honest—dishonest
   Fair-minded—partial
   Conscientious—conscienceless
   Painstaking—slipshod
   Mature—infantile
   Responsible—irresponsible

2 Realism:
   Practical—unrealistic
   Alert—absent-minded
   Guided by reality—subjective
   Facing life—evasive
   Decisive—indecisive
   Good sport—spoiled child
   Enterprising—daydreaming

3 Disciplined independence:
   Resourceful—unresourceful
   Independent—dependent
   Self-disciplined—undisciplined
   Thoughtful—impulsive
   Persevering—quitting
   Planful—planless
   Wide interests—narrow interests
   Endurance—lack of will
   Reliable—undependable

4. Self-assertion and adaptability:
   Talkative—taciturn
   Boastful—modest
   Conceited—self-dissatisfied
   Exhibitionist—self-effacing
   Assertive—submissive
   Headstrong—mild-tempered
   Obstinate—reasonable
   Opinionated—tolerant
   Inflexible—adaptable
   Tactless—tactful

note instances where you would rate yourself quite differently under varying circumstances. Consider these differences from the following points of view: probability of your own lack of insight about your personal characteristics, possibilities of lack of insight by other raters; causes of variability in your behavior. Think of specific circumstances in which you have displayed inconsistent or conflicting types of behavior, and write up brief accounts of why you think you acted differently in each case. Save all your ratings and notes to use later on.

Appraisal of past growth trends. Before engaging in the activities suggested here, review the discussion of related prob-

5. Boldness or timidity:
    Self-confident—self-distrustful
    Forward—bashful
    Tough—sensitive
    Adventurous—timid
    Enthusiastic—apathetic
    Energetic—languid
    Extravertive—introvertive

7. Expressiveness:
    Playful—austere
    Frivolous—serious
    Reckless—cautious
    Affected—natural
    Eloquent—inarticulate
    Frank—secretive
    Energetic—lethargic
    Courageous—cowardly

9. Flexibility and imagination:
    Inflexible—adaptable
    Stable—changeable
    Thrifty—careless
    Meticulous—disorderly
    Logical—intuitive
    Curious—unenquiring
    Unimaginative—creative
    Eccentric—conventional
    Rebellious—reverent
    Backward-looking—forward-
        looking

6. Sociability and friendliness:
    Responsive—aloof
    Friendly—hostile
    Affectionate—unresponsive
    Intrusive—reserved
    Sociable—seclusive
    Pleasure-seeking—ascetic
    Adaptable—conservative
    Genial—cold-hearted
    Grateful—thankless
    Unresentful—vindictive
    Cooperative—obstructive
    Easygoing—short-tempered
    Generous—tight-fisted
    Trustful—suspicious
    Praiser—slanderous

8. General emotionality and emo-
        tional balance:
    High strung—relaxed
    Excitable—phlegmatic
    Impulsive—deliberate
    Placid—worrisome
    Cheerful—depressed
    Irritable—good-tempered
    Intense—apathetic
    High anxiety—low anxiety
    Impatient—patient
    Tough—sensitive
    Extreme—temperate
    Enthusiastic—apathetic
    Dissatisfied—contented
    Changeable moods—even-tem-
        pered

lems on pages 295-300. Also, review any pertinent data that
you have already collected in studying the possible influences
of heredity and environment in your life and in tracing the
development of your interests.

One of the most interesting ways to proceed from this point
is to start an autobiography. Before doing this read the direc-
tions on pages 310-311 for attempting to recall early experi-
ences. Jot down your recollections for several days, and then
write a brief sketch of what seem to you to have been the im-
portant experiences and trends in your past life. Note espe-
cially any apparent backwardness or precociousness in any
phase of your development—physical, mental, or social; and
see if you can detect any effects of these growth variations in
your present attitudes and behavior. What strengths and
weaknesses are suggested by your life history?

Your pattern of personality. Thus far, in appraising differ-
ent aspects of personality, you have been comparing yourself
with others as to the relative strength of your characteristics.
It is equally important to see the variations within yourself as
to traits and abilities. The particular balance and interaction
of these trends will help to determine the nature of many of
your important life adjustments.

Clark L. Hull concludes, from a study of variations of stu-
dents in aptitude for different school subjects, that individuals
may tend to vary within themselves about 80 per cent as much
as individuals differ from one another in any one ability. Here
is another illustration of the normal probability curve (118).

You can test out this theory by charting the information
that you have already gathered in your self-appraisal. Make

PERSONAL RATING BLANK *

Name_____

(of individual being rated)

Please indicate your rating in regard to each question by placing
a check mark anywhere on the appropriate line at the point which
represents your candid evaluation. If you have had no opportunity
to judge this individual in respect to any characteristic, please
place a check mark at the extreme right of the line.

* Reprinted by permission of Edward K. Strong, Jr., Stanford Uni-
versity, Calif, and The American Council on Education.

Question						No opportunity to observe
1 How do his manner and appearance affect others?	Avoided by others	Tolerated by others	Little noticed by others	Well liked by others	Sought by others	
2 Does he need constant prodding or does he go ahead with his work without being told?	Needs much prodding in doing ordinary assignments	Needs occasional prodding	Does ordinary assignments of his own accord	Completes suggested supplementary work	Seeks and sets for himself additional tasks	
3 Does he get others to do what he wishes?	Probably unable to lead his fellows	Lets others take lead	Sometimes leads in minor affairs	Sometimes leads in important affairs	Displays marked ability to lead his fellows, makes things go	
4. How does he control his emotions?	Too easily moved to anger or fits of depression, etc / Unresponsive, apathetic	Tends to be overemotional / Tends to be unresponsive	Usually well-balanced	Well-balanced	Unusual balance of responsiveness and control	
5 Assuming your personal success is involved, would you depend upon him to do the expected or right thing?	Not at all, doubt his loyalty and dependability	Follow-up necessary in all but simplest affairs	Follow-up unnecessary in ordinary affairs	Follow-up unnecessary in almost all cases	Complete confidence in his doing the right thing without follow-up	
6 Has he a program with definite purposes in terms of which he distributes his time and energy?	Aimless trifler	Satisfied just to "get by"	Has vaguely formed objectives	Directs energies effectively with fairly definite program	Engrossed in realizing well-formulated objectives	

a list of the traits and abilities for which you have data. Those
for which you have percentile ranks can be graphed on a chart
similar to the one below. Enter at the bottom of the chart the
characteristics that you wish to graph; place a cross (x) on
each appropriate vertical line at the point that represents your
percentile rank; and connect the x's to form your profile for
these characteristics.

Those traits for which you have ratings should be graphed
on a chart containing the number of steps provided in your rat-
ing scales. The illustration given here (page 333) is adapted
to the rating scale included in this chapter (page 331).
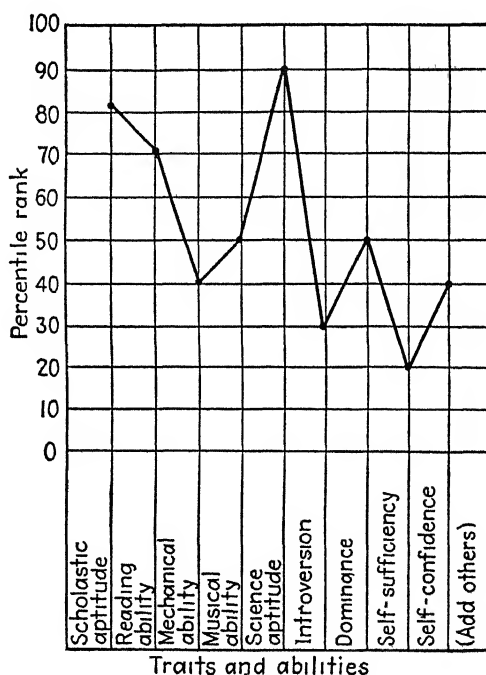
FIG. 8.—A profile of traits and abilities

Meaningful study of your charts will be aided by such ques-
tions as the following: Is there a fairly wide range in the
strength of my traits and abilities, or do they tend to cluster
in one portion of the charts? What seem to be my greatest
strengths, and how may I best use them? What seem to be my

greatest weaknesses, and what should I do about them? Which weaknesses should I try to overcome? Which ones may be balanced by certain strengths? What does my present personality pattern indicate as to desirable activities now and in the future? Am I developing a composite of personality trends and traits that will promote healthy, happy adjustment?
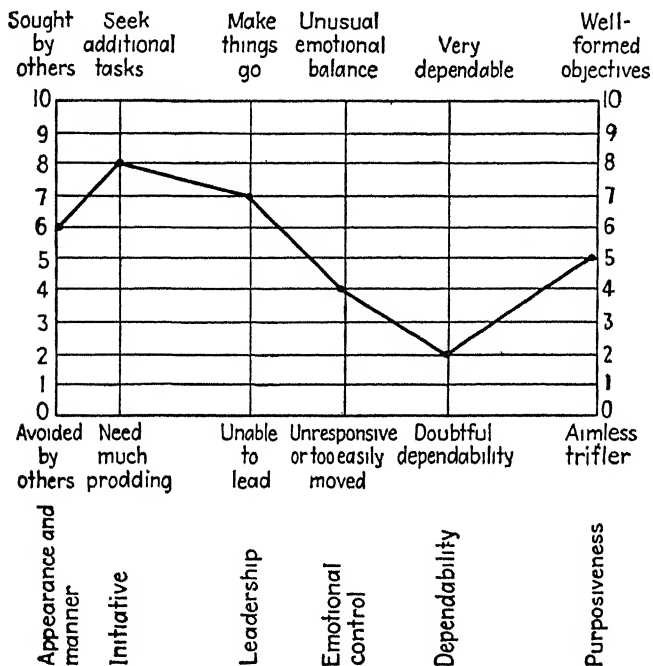
Fig. 9 —A profile of trait ratings.

The self-appraisal outlined here is only a start in becoming acquainted with your potentialities. The understanding of self is a lifelong task. Each new experience should yield significant insights if methods such as are suggested here are used to evaluate its meanings. The intelligent application of these understandings is our next problem.

Suggested Readings (see Selected References, pp. 471-483): 2, pp. 369-522; 22; 177, pp. 69-236; 182; 212, pp. 327-348, 220, pp. 20-24; 221; 236, pp. 519-586.

DEVELOPMENT OF PERSONALITY

How is personality modified or developed?

"Personality" development has caught the popular imagination in recent years, and this interest has been capitalized by many self-styled "psychologists." For two or three dollars one is promised a book that discloses the secret of a "million-dollar personality," enables one to "win a big prize in the game of life!" and to acquire "instantaneous personality magnetism." Sometimes one is promised more conservatively that "in just a few short days this magic power can be yours." For twenty-five or fifty dollars' worth of conferences one is often assured of a successful personality.

An understanding of how personality develops reveals the absurdity of these attractive promises. Instantaneous change can be wrought no more in a personality than in a plant or tree. Assurance that change can be made may prove helpful, but it will not achieve a metamorphosis by itself. Valentine's analogy from plant life illustrates the process of conscious personality development: *

The rose horticulturist carefully prepares his soil, mingling with it in perfect proportions the fertilizers which centuries of experience have taught to be best. Into this pregnant ground he places with intelligent and patient skill the tender shoots of some rose, the latest child of a long ancestry of genetically guided parentage. Now he bestows upon his acres, with unremitting solicitude, all the attention that the most thoughtful mother could give her children. Day by day he makes over their bed. At night he covers them to protect them from the cold; at dawn he is out to remove their blankets that they may thrive in the warmth of the sun. Day by day he feeds them the life-giving water: not too much—just enough. He prunes, he props, and he sprays. And so there comes a time

* Reprinted from Valentine, P F., *The Psychology of Personality*, by permission of D. Appleton-Century Company, Inc., New York, pp 356-357.

when the harvest of roses is blown and plucked and carried away to some chemist's laboratory. Then begins another patient and mysterious process; the slow distillation, achieved by a means that generations of distillers and the contributions of science have conspired to perfect. And out of the long process, from soil to beaker, draining into a final essence, there comes attar of roses—for every 40,000 roses, an ounce; for every 80 roses, a single drop.

Personality is a similar emergence, only a thousand times more complex. For it is no single essence. Every separate aspect of it is an essence drawn from preceding sources and processes as intricate as those of the attar. And every separate aspect is interlocked with every other aspect. Yet some will preach that personality may be changed by a series of foolish exercises, or by reading somebody's books, or by some mystical mumbo-jumbo. Just as foolish would it be for the horticulturist to buy a fairy's wand of a mountebank, and by waving it over barren fields expect to find the precious drops in a teacup.

Can we, then, deliberately create or mold or modify our personality? Within limitations, yes. Realizing that through all the years of our life we have been weaving the structure of our personality, we may yet, in certain ways, effect changes in it by conscious effort.

How can one use knowledge about personality growth?

Normal human beings pass through fairly well defined stages of development which Shakespeare visualized as the seven ages in his well-known description of the progression of parts played by man in the shifting drama of life.

Any division of the span of life into periods is somewhat artificial, since growth is continuous and one so-called "period" shades almost imperceptibly into the next. Also, individuals differ in rate and pattern of growth so that general standards cannot be used to determine what is normal for a particular individual at any one stage. However, interests, attitudes, or behavior distinctly characteristic of one period and very desirable then may be unsuitable at a later period and cause maladjustment. A college student still interested in playing with dolls or childish toys would be ridiculed by his classmates if they knew of his childish interest. Yet many who would ridicule the childish interest in toys have retained equally childish attitudes and behavior patterns which they have

camouflaged unconsciously to deceive both themselves and others. We become attached to the comfort and security of our old ways of behavior and often prefer the certainty of the old to the uncertainty of the new. Unless we are uncceremoniously pushed out of the old ways, we sometimes use them where they may serve as heavy encumbrances and prevent appropriate action. It is quite as disastrous, of course, to discard the old ways too soon or to skip over a period, or "act," in life's drama.

What are some of the problems and pitfalls of infancy and childhood?

The first few years of life are of great importance in determining later trends of development. Careful attention to physical needs, combined with a normal amount of parental affection, seems necessary for an effective start on the life journey. Lack of proper food or unhygienic conditions may cause the infant to be physically handicapped throughout his entire lifetime. Failure to receive a normal amount of parental affection may starve and hamper emotional life and later may cause much difficulty and unhappiness in relations with others. On the other hand, too much attention from parents who are often thus compensating for their own unsatisfactory lives may prevent the child from growing up emotionally and transferring some of his affection to others. Concern for the well-being of the child may cause a parent to care for his physical needs long after he has become able to care for himself and thus prevent him from developing the self-dependence that is a requirement for success and happiness in later life.

As long as the infant is pampered, he usually accepts the situation and even learns to turn it to good account in ways not contemplated by his parents. He may discover that tantrums will frighten his fond but foolish parents into satisfying his demands; that responsibility for his unsuccessful combats with his environment may be placed upon objects, conditions, or other persons; and that unpleasant or difficult tasks may be avoided by cajolery, illness, sulking, or open defiance. Such behavior patterns may continue into adult life and prevent one from coping with life problems effectively.

Real consciousness of self as an individual apart from others

comes to the youngster slowly and is usually expressed at first through identification of self with toys or various possessions. "*My* orange" or "*my* blocks" or "mine, *mine*," exclaimed when a brother or sister appropriates a desired object, is early evidence of the developing consciousness of self. Resentment often shown toward a new baby gives evidence of the struggle that comes when the need for sharing with others arises.

The give and take among parents and children affords opportunity for development out of the self-centered dependence of babyhood into the self-conscious interdependence of childhood and adolescence and finally into the social consciousness and relative self-dependence of the satisfactory adult life. Out of the conflicts of interests emerge a stronger self-consciousness and a larger self To "me" is now added the concept of "we." Out of this family fellowship come ideals of cooperation, kindness, loyalty, lawfulness, justice, fair play, and individual freedom or of selfishness, unlawfulness, and unfairness.

Many so-called adults have remained upon a childish level with respect to physical comforts or social interests and adjustments. The person who is uncooperative, selfish, or jealous has never reached the stage of shared give and take that should be attained early in childhood. Again, the person who has never been forced to make decisions for himself has failed to reach grown-up levels.

The period of childhood brings new and complex problems of adjustment in school and wider play groups. Handicapping behavior tendencies already developed in the home may become intensified, and attitudes of inferiority are likely to develop if the adjustments are not made successfully.

In the play activities of this period interest in the manipulation of toys, characteristic of infancy, is largely replaced by interest in group activities. There is no more compelling authority in the life of the child than that of the play group, and the individual who, because of physical disability or disabling behavior tendencies, has not engaged in this group life successfully may become warped in his personality. Identification with the interests and activities of these play groups affords an important means of self-development, and the child who misses this opportunity often turns his energies inward, loses touch

with objective reality, and becomes introverted and self-centered. Qualities of leadership and followership develop in play groups and influence the trends and activities of later life.

Hero worship appears in later childhood, and the emulation of the traits of the men and women thus idealized is important in personality development. At this age boys are likely to choose men and girls women as their idols. Some of the parental affection developed in infancy is transferred to friends and associates of the same sex and often to older men and women. The companionship of one's own sex is an urgent need at this period; but if it persists unchanged into the adolescent period, when interest in the opposite sex should develop, it may become a handicap.

What is the significance of adolescence?

The adolescent period varies greatly among individuals with respect to time of onset, rhythm of growth, and duration. It is characterized by the development of new interests, new emotions, new powers and activities, an intensified self-consciousness, and a heightened social consciousness. During the early years of the period the internal secretions from the sex glands, in a reorganized balance with the secretions from other endocrine glands, are instrumental in the initiation of the physical and mental changes through which the man or woman evolves out of childhood.

This first phase of the adolescent period, called puberty, involves a cycle of physical growth and development from initial retardation through rhythmic acceleration which gradually decreases in rate as adult physique is approached. During the acceleration phase come rapid and variable spurts in height and weight, changes in bodily contour, and the development of other appropriate sex characteristics of the man or woman. These changes usually occur earlier in girls than in boys, but there are differences in time of onset and rate of change among individuals of the same sex. Not understanding the normalcy of these differences frequently causes anxiety and fear of being abnormal, particularly in the person who is relatively slow or retarded in his growth. A sense of inadequacy and consequent social maladjustment may carry over into the period when physical maturity has been achieved.

The physical changes of adolescence are accompanied by profound mental changes, which are manifested in the intensification of masculinity or femininity of personality. The pubertal period is generally characterized by marked self-consciousness, concern about personal-social relationships, resentment toward authority that interferes with the new urge to independence, and variable enthusiasms. Receding childhood and emerging adulthood clash frequently, as the adolescent attempts to cope with new urges from within, new opportunities and responsibilities from without, and old habits and attitudes of his own and of the adults with whom he is associated. In the later stages of adolescence self-consciousness is normally superseded by increased self-assurance and self-acceptance. Increased self-dependence becomes linked with fuller acceptance of responsibility. As new social relationships become established, more attention is directed toward future vocational activities, civic problems, and eventually marriage. Purposeful effort to reach desired goals becomes more sustained and self-directed.

During adolescence the emotional life is intensified, and the intellectual interests are broadened. The power of abstract thinking increases, and the normal adolescent becomes interested in thinking about the problems of the world and of life. Deep concern about problems of religion and philosophy often develops. This is the opportune time for appropriating a rich store of the social heritage of the human race available in the various fields of study in high school and college. Interest in members of the opposite sex increases—a stage preparatory to the choice of a mate and the establishment of a home. Social interests are widened, and altruism and social consciousness tend to replace much of the self-centered individualism of childhood. In recreation, cooperative activities calling for teamwork and the identification of self with a group replace the individualistic and competitive play of earlier years. This merging of self with the group results in an expansion of the self and lays the foundation for fuller development of the personality.

A striving for independence of action is characteristic of adolescence, and many struggles and maladjustments are the result of the attempt to sever the bonds of authority estab-

lished in childhood and to develop the self-dependence and greater liberty of action of the adult. Some of the pitfalls are associated, on the one hand, with attempts to achieve independence without a sufficient background of experience and, on the other hand, with too little self-dependence to cope successfully with new opportunities and responsibilities. The first tendency often results in rebellion against all authority and in childish attempts to prove one's grown-up status.

Ned G., who left home for the first time when he entered college, exhibited this tendency. Required assignments became anathema, and pranks and wild parties were frequent occurrences. Work, of course, suffered during his first semester; but when with assistance he gained insight into the sources of his conduct, he found more constructive ways to express his independence.

The person who fails to develop sufficient self-dependence in adolescence may show fewer immediate evidences of maladjustment but may encounter many pitfalls in adult life.

Eleanor M , an only child, had had practically every decision, even with regard to unimportant matters, made for her by her parents until she was seventeen years old. When she entered college where more initiative and self-dependence were required, she became timid, anxious, and unhappy and began to fail in her studies. The counselor worked with Eleanor and her parents to help them gain insight into the sources of her difficulties and arrange a program that would gradually give her increasing responsibility in making decisions. Studies, attitudes, and social relationships improved gradually, though the long-established habits of both Eleanor and her parents retarded the growing-up process.

The adolescent period is one in which adjustments and reorientation are being effected on a new level, that of adult life, and is, therefore, a critical time. The adolescent is the product of his years of infancy and childhood and carries over into this stage a multitude of behavior patterns developed in childhood. However, his personality is still extremely plastic and is being molded for better or worse along lines that will determine the nature and direction of his adult life.

What does it mean to be an adult?

The urge to be independent and the desire to be recognized as grown up are normal characteristics of adolescence. How-

ever, the ability to foresee consequences of actions, the development of worthy standards of value, and the courage to face the results of decisions do not necessarily keep pace with the urge toward independence. Adolescence is a period of transition in which one should be gradually developing skill in making life adjustments on an adult basis. It is the most difficult skill that human beings are called upon to develop, and the wise adolescent will not attempt to exercise independence in any field of human activity where he does not have a grasp of the social heritage of human experience in that field. Neither will he be content to remain in a state of childish dependence. A forced bloom or a retarded bud is as undesirable in the human being as in the plant realm.

One of the best signs of adulthood is the willingness to face the consequences of self-determined conduct whether they be pleasant or unpleasant. The ability to analyze situations and foresee the consequences of alternatives of action develops slowly through experience. With our limited human understanding we must often leap in the dark He who is truly adult must have a growing philosophy of life against which to gauge his conduct, fairly stable work and play habits which will prevent his becoming overburdened with decisions, and a fair degree of economic independence. These requisites for adulthood, which develop later than the adolescent urge for self-direction, should serve as balancing and often as deterrent factors before experience and background are sufficient to afford clear-cut viewpoints about life. *Adult status, like anything worth while, must be earned.*

The second index of maturity is the ability to appraise immediate desires in relation to larger values and to deny or defer some satisfactions in the interests of accepted life purposes. This ability depends upon an individual's power to endure the discomfort, hardship, and strain that are necessary to meet inevitable frustrations as well as his power to work for self-determined goals. Such power develops through experience.

A third, and perhaps most significant, test of real maturity is whether one's conduct is motivated chiefly by social interests or by selfish desires. The socially mature person has risen above the self-centeredness of infancy and has become genuinely interested in the welfare of others. He has come to identify

many of his interests and purposes with group welfare and has enlarged his personality through his widened and deepened social consciousness. This social maturity is the most essential characteristic of citizens in a democratic social order. No real democracy is possible without it.

The attainment of adult status, however, does not ensure its maintenance. Life is a continuous process of *becoming* and involves continuous readjustment. Failure to readjust to changing conditions may result in as ineffectual living as does the retention of infantile behavior patterns. The habit of change should be established as the core of an orderly system of habits.

A shock, disappointment, or painful experience sometimes proves too severe a test of one's power of adjustment and throws one back into earlier types of adjustment. Loss of speech due to shock and reversion to childish prattle and play as the result of a disappointment in love or a severe fright are recorded in case histories. Where the regression is not so extreme, it may be expressed in less obvious sorts of childish reactions. The habitual postponing of unpleasant tasks with always a "good excuse," self-indulgence of various sorts, uncertainty and indecision when judgments should be made, or emotional upset over trivial matters are types of regression that we can frequently recognize in ourselves or our friends. Regression is often expressed indirectly in physical symptoms that bring to the person attention that he has failed to secure in other ways. Exhibitionism, which may be manifested in bizarre conduct or unusual attention to dress, is another common type of childish regression. To control these infantilisms one should first discover what needs or wants are involved, next decide which should be satisfied, and then work out adjustments that provide opportunity for satisfaction through mature activities.

What are some of the pitfalls in emotional development?

Love. Since love is one of the most complex human sentiments, its development is subject to many deviations. It is a motive force behind our finest achievements but also the source of many difficulties. Fixation of the affections at a childish level may cause much unhappiness and maladjustment. Fairly well defined stages can be traced in the development of the

affections of the well-adjusted individual, starting with self-love in the infant, expanding into love of parents, changing later into affection for others of the same sex, and finally developing into affection for members of the opposite sex.

The infant is a self-centered being, and his evidences of affection are bestowed upon those who minister to his needs and upon those objects which give him pleasurable sensations. Some individuals never grow out of this stage of self-centeredness. The person who practices the autoerotic habit of masturbation, which is a common childhood phenomenon before there is awareness of its relation to the sex life, is securing satisfaction on an infantile level.

Even though the act of masturbation does not have any injurious effects on physical or mental development, the tendency toward gaining satisfaction from self is a sign of social maladjustment. The individual with this inclination needs to direct his interests outward to friends and group activities. Another person who does not express his self-love on the physical level may be quite as self-centered in his affections. When he apparently develops affection for another person, he may really be attracted by characteristics similar to those which he admires in himself or he may be interested chiefly in what he may gain from the individual.

Sentiments of love for parents develop naturally out of a wholesome home environment. The child whose life is so barren of affection in this relationship that he fails to develop a strong parental love may be seriously hampered in his emotional growth and warped in his personality. When this parental relationship expands and adjusts to the changing needs of the growing individual, it becomes the source of some of the finest experiences in life. When, however, through lack of parental understanding or through a selfish parental affection the child is prevented from normally transferring some of his affection to playmates and associates, it becomes a cramping and stagnating force.

Stages of parental love vary somewhat for the boy and girl. The boy is likely to develop a strong attachment to his father, with the element of hero worship involved, at an earlier stage than the girl, with whom affectionate admiration of a father is usually an important step in the development of desirable asso-

ciations with other members of the opposite sex and finally in the choice of a life partner. This holds true likewise in the relationship of a boy and his mother. Too strong an attachment of a boy for his mother or of a girl for her father may prevent either from developing a normal and satisfying love for a member of the opposite sex. Progression from one stage to another does not mean complete transference of affection from one person to another but rather an expansion of the affections to include others. Healthy affections at each stage enrich the love life in succeeding stages, but fixation at any stage is quite as serious as retardation of intellectual development.

The person who remains imprisoned in the affections of a parent seldom establishes satisfying social or vocational relationships. If he marries, he is often seeking a father- or mother-substitute and finds it impossible to establish a partnership on an adult basis. In his vocational relationships he may be too dependent or childishly uncooperative to be successful. If the beloved parent dies, he may be left stranded at an age when it is difficult to make new adjustments.

Andrew J., an only child, whose father died when Andrew was a young lad, became the chief object of the affections of a dominating and solicitous mother. In youth he gave evidence of fair ability, and in later adolescence he made overtures toward establishing normal self-dependence. He went to war but was promptly brought home by his mother when he developed an illness. Later he married, but his wife soon affirmed that he must choose between her and his mother. He chose his mother, devoted himself to satisfying her affections and whims, and received her motherly care in return. He never realized the promise of his youth in any vocational achievement commensurate with his ability. He became and remained a subordinate clerk in a business office. When he was past fifty years of age, his mother died, and in a letter to a relative at that time he wrote, "I have nothing further to live for. I am just waiting to join mother."

The affections may become fixated upon companions of one's own sex as well as upon parents. "Crushes" of girls for other girls or women and of boys for other boys or men are natural expressions of the affections in later childhood or early adolescence. When this condition persists unchanged far into adolescence or adult life, however, it may become a definite abnor-

mality designated as homosexuality. In this condition the individual is attracted to those of his own sex and may find it impossible to develop affection for one of the opposite sex or to enter into marriage with satisfaction or success. This situation may involve only the affections of the individual; but owing to the strength of the sex drive, it is likely to involve perversions of sex behavior that are severely frowned upon by society and that may cause the individual much trouble and unhappiness.

A masculinity-femininity antithesis may sometimes be involved in the situation. With a girl it may reflect a protest against woman's supposedly inferior status and the attempt to prove superiority by the assumption of a mannish appearance or by hostility toward the opposite sex. With a boy it may involve uncertainty as to his ability to play a man's role and unwillingness to put himself to the test. This attitude may result in antagonism toward or avoidance of the opposite sex or perhaps in the development of effeminate traits and interests.

Research has shown that there is a wide range within each sex and great overlapping between the sexes in the possession of personality traits of masculinity or femininity as measured by tests. Therefore, a tendency toward some masculine traits of personality in a girl or some feminine traits in a boy should not be considered evidence of an abnormality unless associated with distinctly unnatural or unwholesome attitudes toward the opposite sex (230).

The role of the endocrine glands in retarding or facilitating emotional development is becoming well recognized. Usually the condition is caused by a complex of influences extending far back into the individual's experience. Possibilities for prevention or for redirection of the tendency are coming to be understood much better as a result of the investigations of psychoanalysts, psychiatrists, and endocrinologists. Endocrine treatment by a specialist is sometimes indicated when physical as well as emotional retardation is involved. If due to faulty conditioning, it may be overcome, when faced and understood, by persistent effort directed toward the building up of desired attitudes and social relationships.

Fear and anger. Fear and anger are early expressed by an infant toward those objects or persons which startle, hamper,

or hurt him or which are linked up in his experiences with such sensations. Undesirable modes of reaction involving these emotions established in infancy and carried over into later life often become serious handicaps. Many of our fears and phobias have their beginnings in this early period, sometimes in specific experiences. For example, a person has been known to develop a fear of being in high places as the result of being dangled over a well in childhood by a joking relative. Temper tantrums, irritability, and desire for revenge are some of the anger patterns that may persist in childish forms.

In both fear and anger the whole bodily organism is prepared for vigorous action, but the energy generated tends to be expressed in different ways. In anger the natural expression is to fight; in fear it is to escape a supposed danger. Failure to utilize the energy when it is aroused causes nervous tension and may have undesirable effects both physically and mentally.

The observable effects on the personality of the terrifying and frustrating conditions in battle areas have taught us much about the dynamics of fear and anger reactions. Prolonged periods of danger and strain or traumatic experiences of violent terror have produced conditions of chronic or severe anxiety, insomnia, stupor, temporary loss of bodily functions, regressions to infantile states, and various anxiety substitutes such as gastric or abdominal pains, nausea, or vomiting. Situations of helplessness under attack or loss of comrades have produced hostility feelings that could not be expressed adequately and were converted into a variety of symptoms.

Individuals differ in their degree of tolerance for these experiences, but recognition of the universality and inevitableness of fear in dangerous situations tends to relieve tension within a person who may feel that he is cowardly. It also helps him to control the expression of his emotions. A report on war neuroses during the Tunisian campaign in North Africa in 1943 states that a certain wise medical officer built morale by talking plainly to his men about fear and that the psychiatric casualty rate among these men was considerably below that of any other unit.

Anger serves useful purposes in overcoming obstacles, and fear has its uses as a means of self-protection, but both need to

be controlled and utilized for serviceable ends.   Blind repression
of either emotion will not control it.   A list of what frequently
arouses one's anger may prove self-revealing and uncover the
sources of much wasted energy.   Likewise, a listing of one's
fears, with the search for their causes, is a good start toward
overcoming them.   Once we understand the nature and source
of a fear, we can more readily deal with it.   The conquest of
fear may involve the gaining of more self-confidence, first in
little things and gradually in a wider sphere of activity.   It is
a matter of habit formation.

Personal Inventory

Can you find illustrations in yourself of attitudes or behavior
characteristic of an earlier period that you have failed to outgrow?
Have they caused you any difficulty?

Can you find illustrations of the precocious assumption of atti-
tudes or behavior belonging appropriately to a later period?   Can
you account for their presence?   Have they been a source of mal-
adjustment in any way?

Which of the other pitfalls considered here have you already
encountered?

Make a list of them with brief descriptions of the behavior pat-
terns that you have developed   List causes for each.   Consider
ways of dealing with each difficulty as you study the next section
on ways of modifying personality.

What are the methods by which we may modify personality?

The making or unmaking of habits.   The first step is to
recognize that the same principles that have been operative in
making us what we are must be applied in making us what we
wish to be.   A personality can be changed only as the inter-
related systems of habits and attitudes that compose it are
changed.

Dewey has said that habits

. . . are demands for certain kinds of activity; and they constitute
the self.   In any intelligible sense of the word will, they *are* will
They form our effective desires and they furnish us with our work-
ing capacities.   They rule our thoughts, determining which shall
appear and be strong and which shall pass from light into obscurity
. . . The essence of habit is an acquired predisposition to ways or
modes of response, not to particular acts except as, under special

conditions, these express a way of behaving. Habit means special sensitiveness or accessibility to certain classes of stimuli, standing predilections and aversions, rather than bare recurrence of specific acts. It means will.*

Note that the emphasis here is upon more general modes of response, including ways of feeling and thinking, rather than upon specific types of behavior, though both are usually involved in systems of habits.

Many habits are formed without conscious effort on our part by the process of conditioning described earlier (see pages 102-104). Fears, likes and dislikes, and specific ways of behaving may develop through accidental circumstances and carry over into later life without conscious control. Other habits have been developed by planned effort of parents and teachers. We also develop them ourselves in attempting to satisfy basic needs and various desires.

The following steps are essential in striving to form a habit: (1) Develop a clear picture or idea of the skill or characteristic that you wish to have; (2) analyze the various steps and activities that are involved in attaining it; (3) plan and carry out a definite program of practice and repetition of the activities until they function easily and with the perfection that you desire.

This is more easily said than done, for patience and persistence are required to develop skill and finesse in any complicated activity. William James, who formulated a famous list of maxims for habit formation, stated as one important rule Never allow an exception to occur until the new habit is well established. "Each lapse," James says, "is like the letting fall of a ball of string which one is carefully winding up; a single slip undoes more than a great many turns will wind again." All initial enthusiasm may be lost with one break, and we are then thrown back in the task farther perhaps than where we were at the start. Consistency of training is the means by which a habit becomes fixed.

A clear picture of the goal and of the steps to reach it are equally important with practice. Blind striving for results

* Reprinted from *Human Nature and Conduct,* by permission of Henry Holt and Company, Inc, New York, pp. 25, 42.

without intelligent direction of effort is largely futile.   Fritz Kreisler, the violinist, is reported to have said that technique in his art is a matter of brain, not brawn—a matter of thinking before and not as or after you play the note.

Conscious control and direction are essentials for effective habit formation.   The changing of habits involves the same principles as the formation of new ones.   One help in changing a habit is to control the stimulus that starts the chain of activity.   If, for example, one becomes irritated habitually in the presence of a certain individual, he can try to avoid him rather than attempt to change his response of irritation.   Another method is that of making the habitual response so unpleasant that the drive to repeat it is weakened.   Self-denial of pleasures or self-inflicted punishments may be attempted. Either method has its disadvantages.   Avoiding the undesirable stimuli may also necessitate avoiding desirable ones in the same environment and thus may limit one's opportunities and activities considerably.   Self-discipline to make an undesired response unpleasant will not take care of the unused energy of the emotional drive.   The substitution of a new, desirable, and satisfying form of conduct need not involve these disadvantages.   If procrastination with work has become a troublesome habit, develop the practice of competing with yourself in reducing the time required for specific work or map out a definite time schedule providing for much-desired activities that will follow the completion of required tasks.

All three methods of changing habits have places in a consciously directed program of self-development.   As one approaches adulthood, opportunities increase for choosing activities, associates, and surroundings.   Environment thus comes more under one's control.   However, no one is ever completely free to choose his own environment.   Where choice is impossible, there is always the opportunity of building up barriers to undesired stimuli or of changing undesired responses to stimuli.   The choice of stimuli that we shall *accept* and the conscious determination of how we shall *react* to them are two master keys to self-direction.

Joseph Ralph has given an interesting account of the process by which he stopped a thirty-year habit of heavy smoking. Reading one morning about the acute suffering of Shackleton's

men on their Antarctic trip because of their lack of tobacco, Ralph decided to go without smoking until he experienced a good husky tobacco craving, in order to analyze the condition and see of what it was made. He reports that he waited unsuccessfully for the craving that never appeared. He concluded that the supposed craving was wholly mental and that Shackleton's men must have suffered purely mental discomfort at being deprived of an accustomed activity. Unable to locate the supposed craving by careful searching and analysis, he never resumed his long-standing smoking habit. Ralph recommends similar analysis of any habit that one wishes to control (182, pp. 91-105).

One of the greatest values of attention to habit making and breaking is the resulting facility in changing habits. As long as we retain this facility, we have the potential ability to adjust to the changing conditions of life. Studies of adult learning show that we do not need to stop growing as we become older and that we may even become more efficient in our learning in some respects. It is essentially a childish characteristic to cling to accustomed ways. Of course, we should not dissipate energy in attempting to change too many unimportant details in living; also, we need to keep changes well integrated with the main currents of our lives.

Keep vivid pictures of the person that you wish to be. The three pictures of self described in Chap. XIX are dynamic factors in personality growth. A picture of the actual self as shy, awkward, unattractive, and uncommunicative coupled with a looking-glass self reflected through seeming indifference, boredom, or slights of associates may discourage an individual's effort to become socially effective or attractive. To some these unsatisfying pictures serve as challenges to self-improvement; for others they result in futile daydreaming about an imaginary social being or even in unsocial attitudes and behavior engendered by a deflated and injured ego. Again, a picture of success in an undertaking may give increased poise and self-confidence that will improve chances of success in later activities.

The methods of self-appraisal considered in the two preceding chapters should help to clarify your picture of what you actually are at any time. As you learn to understand your-

self and others better, you learn to avoid distortions in your looking-glass pictures—what you think that others think of you. You need to maintain a working contact between these two pictures and the picture of what you wish to be and strive to make them consistent each with the others. The following problems are involved in this process: What are the causes of divergencies between your own and your looking-glass pictures? What are specific ways of eliminating the differences? What changes are needed in your present self to bring it in line with the desired self? Is it reasonable to expect that you can make these changes? What characteristics need to be developed, which modified or obliterated? What changes in habits of thinking, feeling, and daily living will contribute to the development of the desired self?

PLANS TO CARRY OUT

If you have followed previous suggestions for self-study, you have already mapped out some of the steps in solving these problems (see page 305). Review these earlier data to see what changes you would make in the light of subsequent study. Then follow through the steps suggested here·

Make a list of attitudes, ways of feeling or thinking, and specific habits that you would like to eliminate from your personality.

Make a list of new habits, including ways of feeling or thinking as well as specific ways of acting, that you would like to develop.

Compare the new ones with the old ones to discover if any of the new ones can be substituted for the old.

Study from the following angles each habit or behavior pattern that you would like to overcome:

> Describe the habit briefly, but clearly, so that you will have a clear-cut idea of what you are dealing with.
>
> Analyze and describe the stimuli, external, internal, or both, that arouse the reaction pattern. Consider whether or not these stimuli could be avoided without undesirable results. If so, plan how. If not, consider ways of training yourself to react to them negatively or of linking them up with a new and desired response—a substitution of a new for the old habit.
>
> Outline a plan of action to be followed in eradicating the habit.

Study from the following angles each new habit or behavior pattern that you desire to acquire:

Describe the new habit briefly, but clearly, so that you will have a clear-cut idea of what you are working toward.

Determine upon appropriate stimuli, both external conditions and inner motives and attitudes, that will help to establish the habit.

Outline a plan of action to be followed in establishing the habit.

Check on your progress consistently over a period of time.

Know what you want of life. There is an old saying that the world stands aside for the man who knows where he is going. The setting of goals and the mapping out of plans for working toward these goals are important processes in self-development. However, the goals, if reached, may seem meaningless if we have not chosen them in the light of a system of values with respect to what is worth while in life for us. When we seek for values in life, the journey may yield them even though a predetermined goal may not be reached.

What do you now think that you want of life? Fame, wealth, pleasure, prestige, friendship, service, self-realization? Make a list of the things that now seem of value to you, arranging them in order of importance. Be as specific as possible. Next list specific *goals* that you now have in mind, such as level of achievement in a particular vocation, marriage; children; a happy home life; level of income, social, recreational, and civic activities; and personal characteristics. Place each goal opposite the value to which it is likely to contribute. What changes in either list are suggested by this comparison?

Standards of value develop with experience. Desirable goals also grow and change as new possibilities emerge. These changes necessitate the frequent comparison of goals and desired life values if the two are to be kept in harmony. When these comparisons are made, it is well to question what the efforts directed toward a particular goal are likely to yield in life values five or ten years hence.

Develop a well-balanced life plan. A comprehensive life plan usually includes three major fields of interest and activity: work, play, and love. In a well-integrated life these are not three distinct spheres of activity but are like interlocking directorates each of which has some of its elements in common

with the others and among which there is reciprocal influence or interplay. In general, one's vocation will be the center of one's work interests; avocations and friendships, the center of one's play interests; and family and home, the center of one's love interests. Some might wish to add a fourth sphere including religion and spiritual aspects of life, though to others these would be an integral part of all aspects of living. Each one must develop his own concept here, depending on his philosophy.

Planning in these major areas will be dealt with in subsequent chapters. We are concerned here with the relationships of these activities in a well-balanced life. Integration of personality depends upon the harmonized interrelation of the various "selves," or centers of interest. Burnham has suggested that this unification can best be achieved through a "total self" that comprehends and dominates all the others.

One person may find in his vocation the central dominating interest that brings unity and satisfying meaning into his life; another may find it in his love and home life; and still another, in his friendships and recreation. The important thing is to find it somewhere, for otherwise one has no steady focus on life. In building up these dominant interests it is well to consider the seemingly harsh but undeniable fact that the deepest and apparently most stable work interests or the most cherished love or friendship may, in some way, elude one and leave one high and dry without a guiding star if what has been lost has become the dominating factor in one's life. It would sometimes seem as though one's self were the only stable, dependable element in life and that stability of personality depended upon finding the true center of one's own being and reaching out from here to encompass the work, play, and love that give life its meaning. This need not be in any sense a selfish or self-centered process, since without an outward-reaching spirit life would wither at the core.

Watch your compensations. There is at least one danger in this process of self-development that needs to be thoroughly understood and avoided. The desire for superiority of some sort is apparently a general human characteristic. It is undoubtedly one motive force back of our ambitions and therefore a source of much of our human striving and achievement.

When this craving for superiority results in really worth-while accomplishment, it is a desirable motive which should be encouraged. Very often, however, it degenerates into a craving for a feeling of superiority rather than for genuine superiority itself. This striving for emotional satisfaction may result in behavior likely to antagonize others and also in unwholesome reactions within one's own personality. The social or intellectual snob is a common illustration of an individual who is trying to feel superior and who antagonizes others by his efforts. Usually he fools no one but himself. A person with a strong introvertive tendency may, if he meets with frustration in the real world, retreat into the realm of his daydreams where there need be no limits to his superiority and where he can escape from his feeling of inferiority.

It is important to recognize that inferiority and superiority are relative matters. If we are honest with ourselves, we can invariably find some individuals who are inferior and others who are superior to us in various respects. If we have developed emotional maturity and balance, we shall not be deeply concerned by our positions on the inferiority-superiority scale or struggle blindly for superiority. Rather we shall use our standards of value and knowledge of self to determine what are the worthy goals toward which to work in achieving superiority and will not be satisfied with the useless bauble of merely feeling superior.

A sense of inferiority is neither pleasant nor inspiring, except perhaps as some individuals have tried to make extreme humility seem a virtue and have thus indirectly created the possibility for feeling superior. It is not suggested that we too readily accept or revel in our inferiorities. A limitation should be either overcome or compensated for in wholesome and worthwhile ways. Compensation is an important principle to apply in efforts at self-development.

Examples of compensation may be found at every level of existence. Nature will compensate for a broken bone by making the fractured point larger and stronger than before; the loss of one sense such as sight may result in the fuller utilization of other senses to offset the lack. Likewise in our personalities we shall compensate for inadequacies whether we

direct the process or not. A crusty disposition may be as direct a compensation as an excrescence on a fractured bone.

If we assume conscious control of our compensations, we can avoid many of the pitfalls. Overcoming a personal limitation or mastering a difficult situation is a desirable achievement if it does not involve the sacrifice of greater values. Often, however, it is wise to accept a frustration philosophically and gain substitute satisfactions. In evaluating compensations it is well to ask:

Have I yielded to a frustration too readily without putting forth sufficient effort to overcome it?

Have I wasted time and effort needlessly in struggling with a difficulty?

Have I secured really worth-while substitute satisfactions for apparently unavoidable frustrations?

Purposeful striving for real achievement in activities that utilize our best potentialities and conscious but wholesome compensation for our inadequacies are two of the best methods of overcoming undesirable trends of personality.

It has been suggested that we always tend to feel inferior in the presence of the "bogey" of the person we should like to be and superior in the presence of the personality that we have outgrown (69, p. 4). If the study of the three pictures of self suggested previously is carried on in an objective manner, we can utilize these opposite tendencies in ways to develop a balanced attitude toward self and to stimulate our best efforts toward achievement.

Improve your ability to understand others. Many qualities of personality for which we strive are those which tend to facilitate our relationships with others, resulting in improved social status; increased recognition, love, or affection; and opportunities for self-expression. Without an understanding of those with whom we associate, our self-knowledge will not be especially helpful in the achieving of these goals.

In spite of the fact that no two people are exactly alike, there are common modes of expression that give clues to the inner life. Facial expression, tone of voice, gestures, mannerisms, general bearing, and a multitude of physical reactions are significant manifestations to him who knows how to interpret

them. Of course, we all become fairly adept at masking our real selves, so that the ability to interpret these clues is difficult to acquire.

If this social skill is striven for merely as a means of attaining selfish ends, it ultimately defeats its own purpose. As a means of entering more sympathetically and tactfully into the lives of others, it becomes an open sesame to mutually satisfying social experiences.

Be tolerant and objective about self. In applying the suggestions for modifying personality, keep the following points in mind:

If you are somewhat dissatisfied with the present state of your personality, don't get impatient and attempt a revolution overnight. Start with some traits that are hampering your present efficiency, and work on them. When you have gained skill in these efforts, you will have more power to tackle some of your larger problems. Remember that you have a lifetime in which to grow.

Don't allow yourself to get morbidly self-conscious about your faults. We all have them. Humor yourself with a few foibles and whims about unimportant matters, and save your energies for important things. Laugh at yourself a bit, and then forget yourself a good deal of the time. Your mind will take care of a lot of things for you if you give it the right suggestions. Don't perpetually keep digging up the seeds that you have sown to see if they are growing. After you have planted them firmly in the soil of good intentions and attitudes, leave them alone some of the time and give them the sunshine and fresh air of an understanding, joyous, outward-reaching spirit.

Personal Inventory

Study your goals or ambitions with a view to discovering which are based on real desire for achievement and which, if any, are motivated almost entirely by a desire for recognition or for a feeling of superiority. Is this latter motive linked with an urge for real achievement?

List any compensatory adjustments of which you are aware, and consider the desirability or undesirability of each one.

How well do you think you understand the people with whom you associate daily? Can you think of instances when you have

misjudged the attitudes or feelings of others? Can you recall times when your insight and understanding have helped to prevent embarrassing or unhappy experiences for yourself or for others?

SUGGESTED READINGS (see Selected References, pp. 471-483): 69, 102; 113, 137; 153; 156; 157; 187; 199, pp. 361-392; 236, pp. 228-330; 219, 230.

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MEETING FRUSTRATION

What are the sources of frustration?

Frustration is universal and inevitable. Our wants, on the one hand, urge us forward in search of their satisfaction, but conditions in our environment and in ourselves interfere with this goal-seeking activity. In college life, for example, desires for academic success, social participation and recognition, athletic achievement, recreation, and leisure are almost certain to clash. In one student the desire for academic success may be so strong that he will have little conscious difficulty in excluding other activities. Again, interest in athletics or social life may be stronger. Sometimes preoccupation with studies results not from excessive interest but as compensation for the thwarting of other interests.

The power of tolerating frustration and of coping with it effectively is essential to all growth and adjustment. During the process of growing up, new ways of satisfying basic physical needs, such as for food and elimination, must be learned at new levels of adjustment. This forces the abandonment of old ways that may have become satisfying and pleasurable. A similar process occurs in the establishment of increasingly complex social relationships and adjustments in learning, work, play, and personal development.

The sources of frustration may be classified roughly as *external*, growing out of conditions in the environment, and *internal*, inherent in the personality. The satisfaction or thwarting of most desires results from the interplay of internal and external forces, but the fundamental cause of thwarting may reside chiefly in one of them. An individual may suffer from hunger because of lack of food or because of inability to assimilate it.

Frustrating situations have been classified into three major

groups: *privations*, *deprivations*, and *conflicts*.* These may be external, internal, or both in origin. Examples of external privations are lack of food, clothing, shelter, economic security, educational opportunities, and status with or affection of others. Internal privations may be due to physical or mental limitations that prevent adequate adjustment in a situation, lack of attractiveness, or social facility. The term "deprivations" implies the loss of sources of satisfaction. The loss of property, position, or a loved person would be external deprivations; the loss of a leg, arm, attractive appearance, health, or abilities would be internal deprivations. External conflicts might involve competition in work, love, or other desired goals; internal conflicts would result from incompatible needs, desires, or attitudes within the personality. These classifications are arbitrary and are valuable only if they afford a convenient approach to the study of frustrating situations.

What are some of the sources of your frustrations? You can make an interesting comparison later if you jot down what seem to you now to be causes of thwarting in your life. Group these under the following headings:

Sources	Types of frustrations		
	Privations	Deprivations	Conflicts
External			
Internal			

Your list will probably be incomplete, since you are not likely to be aware of numerous sources of frustration. We have many ways of protecting ourselves from recognizing our limitations and failures, and frequently we camouflage them unconsciously to deceive both self and others. However, we often magnify them out of all proportion. One of the tasks in self-discovery is to bring the various aspects of experience and personality into their true perspective and accurate proportions.

* Rosenzweig, Saul, "Frustration as an Experimental Problem," *Character and Personality*, 7 126-160, December, 1938.

What is your level of frustration tolerance?

Frustration tolerance has been defined as the capacity to withstand a frustrating experience without distorting the apparent facts of the situation.* This power depends on both constitutional factors and the results of experience. We have here the interplay of the three factors previously considered: what we started with, what has happened to us, and how we have reacted to our experiences.

Normally, frustration tolerance increases from infancy to adulthood. Individuals differ widely in their power to meet frustration adequately. Also, one individual may meet one crisis calmly and effectively and "go to pieces" on another, no more severe as judged by an outsider. Again, cumulated frustrations inadequately met may cause a minor thwarting to become the proverbial last straw that breaks resistance.

The well-adjusted person has a relatively high general level of frustration tolerance. He has learned to cope judiciously with limitations and conflicts. He has disciplined himself to meet inevitable disappointments and shocks with courage and fortitude.

The person who as a child was spoiled by not having enough frustration should reeducate himself by following a program of self-discipline that will gradually increase his power of struggling with difficult situations and of sacrificing immediate pleasures for permanent values. Such a program may start with persistent adherence to a simple time schedule that provides adequately for specific tasks important in working toward desired goals. It may include a steady attack on an undesirable habit or a series of self-denials of a pleasurable indulgence. Permanent results cannot be expected too quickly. The training must be as rigorous and consistent as that directed to the perfection of an athletic skill.

Write in your notebook a brief statement of your present level of tolerance. Is it generally high or low? In which areas is it particularly low or high? Can you account for such differences? What can you do about the low levels? Do you tend to accept frustration too readily and do nothing about it?

* Rosenzweig, Saul, *op cit.*

How may frustrations be met?

There is, of course, no specific set of answers to this question. However, experimental research has yielded some helpful guides for coping with frustrations.

The thwarting of a drive to action may arouse some form of aggressive behavior. This aggression may be expressed in a direct and obvious attempt to overcome the obstacles and reach the desired goal, or it may take an indirect route and be so disguised that its real nature is not easily recognized. The habit patterns of the individual, the culture pattern in which he lives, and the total frustrating situation will all influence the particular form assumed by the aggressive response.

Cyrano de Bergerac illustrates a character who exhibited aggression as a result of continuous frustration. Well-born, well-to-do, with more than usual wit and native ability, educated, brilliant swordsman, poet, playwright—all these—yet bitter within, "knowing myself so ugly, so alone," Cyrano, with the cruelly grotesque nose, fought the world with arrogant abandon. Sarcasm or the sword were his quick responses to ridicule, insult, or a stare. Fighting to defend the outer man; striving for perfection of the inner man; and tender, generous, and self-sacrificing in a hopeless love, Cyrano is a symbol of a universal human problem. Meeting his last fight, with death, standing sword in hand, he cries, "But one does not fight because there is hope of winning! No!—No!—it is much finer to fight when it is no use!"

We need not go to fiction for more illustrations. In many would-be world conquerors can be found a childhood of insecurity, unhappiness, and ridicule and an early manhood of failure and frustration. Hitler's "crusade of hate" has been interpreted as having its inception in a youth of frustration.

No one character or event can reflect all the facets of a fundamental life issue. To glimpse briefly more of the vistas toward which this fascinating problem of frustration may lead us, we shall turn to a prosaic consideration of a very common situation. If two men are competing for the affection of the same woman and one of them wins, the loser might conceivably react to his defeat in one of the following ways: He might engage in a fight with the winner, oppose him in his work, or plot re-

venge, keep on trying to win the woman's affection, blame and denounce himself as worthless, develop an antipathy to all women, or direct all his energies into his work. Again, he might pass the matter over lightly and seek the affection of another, stop his search for a mate and direct his affection to parents or members of his own sex, or indulge in self-pity and perhaps eventually develop nervous symptoms or physical ailments. The reader can supply other possibilities. This common type of frustration for either sex affords obvious examples of the forms that aggressive reactions may take. The following list may explain some types of behavior that were not seen as aggressive in nature when reading the illustration.

Some Types of Aggressive Reaction to Frustration

Direct or indirect attack on the object or situation thought to be the source of the frustration. Fighting the rival suitor is the pattern frequently encountered in melodramatic fiction or movies. Inhibiting this impulse to fight back directly and opposing the rival in his work or plotting revenge is merely a more indirect type of childish and unsocial reaction.

Direct or indirect efforts to find gratifying alternatives for the thwarted goal. Finding another object of affection or directing greater attention to a substitute goal, such as satisfying work, are examples cited above that could be classified here. If the thwarted interests and drives were actually linked up with the substitute activity, we should call the process one of sublimation.

Persistent or perseverative reactions to achieve a desired goal in spite of an impasse. This is a frequent type of behavior in many situations; it sometimes succeeds, but it does not represent victory.

Defensive reactions to protect the integrity of the ego. These may be either adequate or inadequate depending upon a number of factors to be considered later. Some illustrations of inadequate behavior were suggested for the hypothetical suitor:

> Blaming the external world or a portion thereof and projecting hostility against it, *e.g.*, developing an antipathy to all women.

Blaming self or turning aggression inward and developing feelings of unworthiness, remorse, and perhaps guilt.

Blaming the unavoidable or passing over the situation lightly. This may be a desirable type of reaction unless it involves self-deception as to the extent of a personality wound, in which case the aggressive reaction may eventually be expressed in more devious ways, such as fatigue, anxiety, and a host of other physical ailments.

Neurotic behavior. Neurotic symptoms are examples of behavior that may be related to the physiological concomitants of aggressive reactions. States of anger and fear are accompanied by physiological activity that prepares the organism to react vigorously. Long-continued arousal of these conditions without appropriate direct or substitute behavior may produce the physical and mental symptoms of a neurotic state. So-called "nervous breakdowns" have been experimentally induced in animals through imposed frustration situations. A dog was conditioned to discriminate between a circle and an ellipse of light by salivating at the presentation of the circle which was always followed by food. Gradually the ellipse was made more nearly circular, thus increasing the difficulty of discriminating between the two forms. After several weeks of imperfect discrimination, the dog became negative to all stimuli and eventually struggled and howled when subjected to the training procedure.

Psychiatrists in war service have reported the effects, especially on ground personnel in forward airfields, of helplessness against surprise attacks from air. When enemy attacks became incessant, almost everyone on the field developed some degree of free anxiety. Neurotic symptoms were manifested by individuals whose capacity to tolerate this anxiety state was low. Common symptoms were loss of appetite, vomiting after meals, diarrhea, confusion, and sometimes mutism or amnesia. Among the flying personnel reactions to strain and tension frequently involved fatigue states, restlessness, irritability, insomnia, various physical symptoms, and worry about their health (102).

Aggressive reactions to frustration should be understood and directed into constructive activity. Aggressive behavior is a

normal, healthy response to thwarting. The organism is prepared to act under these circumstances, and the energy should be used. The function of intelligence is to determine how and for what purpose.

For the protection of its members, society places certain restrictions on aggression; it also provides opportunities, both good and bad, for its expression through group organization. Custom, tradition, and habit provide ready-made patterns of activity that can be used. However, each new situation requires a unique response, and an individual is faced perpetually with the challenge of trying to understand his own drives and creating responses that will bring satisfaction and orderly growth. The normal individual will also be concerned with social approval and the avoidance of punishment. The really mature person will, in addition, be sensitive to the welfare of others and will seek adjustments that will serve both individual and group purposes.

An understanding of basic needs gives insight into the futility of a purely individualistic approach to their gratification. One of the most important of these is *security*. Plant describes this need as a sense of belonging to a group because of *who* one is, not *what* one is (174). The foundations for security are laid early in the family life and are built upon the faith that one is an inseparable part of the group by right of birth. Unstable home conditions, inconsistent discipline, or parental opposition may interfere with the development of a strong sense of security.

Plant distinguishes between security and a sense of *adequacy* based on "*what am I*" rather than "*who am I.*" This is closely related to attitudes of inferiority and superiority and depends, or should depend, on ability to achieve or perform effectively in certain areas of life activity. We have already noted the common tendency to *feel* superior rather than to strive to *be* superior. One great weakness in the artificial substitute for real adequacy is that it fails ultimately to satisfy other basic needs for *recognition* by others and for *response* in the form of affection, friendship, and cooperation. Obviously, the needs of self and others are closely interdependent.

When we add to the list of basic needs the physiological hungers, such as for food, sex, and rhythm of rest and activity,

and all the specific wants that grow out of experience, we see the importance of appraising each need in the light of our major life goals. Only then can we fit each want into its appropriate place in the total life pattern.

Before we can intelligently choose appropriate responses to frustration, we must understand not only what we really want but also the various ways of getting it or of fooling ourselves as to whether or not we have it. Oftentimes our aggressive behavior merely consumes energy and accomplishes nothing constructive. Any apparent sense of satisfaction is then due to a temporary release of tension, not to progress toward a desired objective. We must be alert to our own self-deceptions.

Defense reactions to protect the sanctity of the ego are among the worst offenders in this respect. We shall consider a few of these defense mechanisms.

PROJECTION. One of the commonest forms of this type of reaction is that of shifting the blame for unpleasant situations to other persons or external conditions, instead of looking for causes within one's self. All of us engage in this game of pro-jection at times, but with some it reaches the point of a real abnormality. Johnny, for instance, stumbles over a stone and falls, hurting his hand; mother helps him up, kissing the in-jured hand and saying, "Naughty old stone!" Johnny kicks the stone viciously and after a few more such experiences may be well started on a career of blaming objects and persons for his difficulties. Later on his playmates are blamed for the broken window; his teacher gives him a poor mark because she had a grudge against him; the referee discriminates against him or his team in a decision during the football game; his employer is advancing his favorites or promoting others for political reasons. Thus the habit pattern progresses even to the point where he thinks others are persecuting him, and he may become mentally ill.

We all need to examine ourselves when frustrating conditions develop, in order to discover our own mistakes before searching for external causes. The Biblical admonition "first cast out the beam out of thine own eye; and then shalt thou see clearly to cast out the mote out of thy brother's eye" is an important rule of mental hygiene.

RATIONALIZATION. This is a form of wishful thinking of which we are probably all guilty at times. We can find seemingly good and sufficient reasons for doing the things that we want to do, while the opposing reasons may not occur to us. Also we can readily give arguments to justify past deeds or present difficulties. Of course we prove nothing by this process but merely bolster our self-esteem. Another form of rationalization is present in the sour-grapes attitude of the person who has failed to secure something and then tries to convince himself that he did not really want what he started after. This attitude is preferable to that of grieving over failure, but it does not provide a substitute goal. The Pollyanna attitude of passing lightly over a bad situation or perhaps accounting for it as an act of God, and therefore unavoidable, may also becloud issues and prevent the satisfactory solution of problems.

IDENTIFICATION. This is frequently a tension-reducing mechanism through which an individual gains satisfaction by identifying himself with other persons, groups, movements, or objects, thereby gaining an increased sense of prestige or overcoming an inferiority attitude. The self takes on, as it were, the quality or status of the object of identification. Personal possessions, membership in clubs or fraternities, and achievements of relatives or friends may thus serve to enhance the sense of personal worth. Identification with heroes or heroines in fiction, movies, or real life may serve as a substitute for self-achievement.

Many reformers have identified themselves with movements representing the antithesis of hidden desires that have been sources of internal conflict and personal embarrassment. The person who is quick to condemn a lapse of conduct in another is often expressing an unresolved conflict resulting from his own personal lapses. He is thereby compensating for a personal sense of unworthiness which he has failed to recognize and control in more direct ways.

This process of identification is important in self-development. In its desirable forms it is a means by which one grows out of infantile self-centeredness and becomes a truly social being. Identification with members of the family and with

other groups is one fundamental basis of character development.

ANTISOCIAL ATTITUDES AND CONDUCT. Research suggests a positive relationship between antisocial behavior and frustration. The high incidence of crime in youth before economic security and marriage have been achieved points to the discrepancy between wants and their gratification as one probable cause. Defects or limitations in physique, health, abilities, or social and economic background that hamper normal activity, achievement, and social relationships may thus contribute to antisocial aggression.

Recognition through daredeviltry or crime is sometimes more satisfying than being a colorless nonentity. Through failure to recognize and provide outlets for this normal human urge, society is often responsible for producing its own enemies—antisocial or criminal individuals. We can be masters of our own fates in this respect, however, by facing our conflicts and failures frankly and by finding desirable substitutes for our unattained goals rather than by compensating blindly for them.

SELF-AGGRESSION. This is a reversal of the defense mechanisms that direct blame for difficulties toward other persons or external conditions. It may range from a thoroughly normal appraisal of personal shortcomings through many stages of unwholesome self-denunciation and blame. The most extreme form of self-aggression is suicide.

Self-aggression trends are fairly complicated, frequently involving a desire to gain emotional responses from others, or to injure or control others. Suicide and physical ailments sometimes assume this character as does also the suffering hero or heroine type of daydream. Sometimes there are indications that the self-aggressive sufferer is reveling in his self-inflicted misery.

A deep-seated sense of guilt may result from early conflicts over discrepancies between desires and moral standards. If this guilt feeling is not understood, it may be injected unconsciously into the mechanisms for meeting frustration and may itself become a cause of frustration through stultification of effort to achieve.

Douglas Spencer has made an ingenious approach to the detection of sources of such conflict through the analysis of an

individual's independent judgments of himself, his parents, and his associates with respect to aspirations, standards of conduct, behavior, achievement, social and economic status, abilities, skills, appearance, etc. Wide discrepancies between judgments of self and others are assumed to be potential sources of conflict that may lead to feelings of inferiority and unworthiness if one accepts the status of others as desirable and compares himself with it unfavorably.

The following tentative grouping of items under overlapping areas of conflict has been made by Spencer: *

Social-life conflicts: popularity; being liked by those who know you; being a popular dancing partner; spending free time alone or with others; self-confidence; having pleasant home for one's entertaining; having enough spending money; being respected by acquaintances; having family prestige and backing; shyness at social affairs; jealousy; having friends of opposite or same sex; good sportsmanship; sincerity.

Home life conflicts: having had a happy childhood; having happy home life; being treated as an adult by one's mother and father; getting along with brothers and sisters; obeying one's parents; having pleasant home for one's entertaining; being loved by one's mother and father; having family prestige and backing; wealth of family; jealousy; loving one's mother and father.

Parent-child conflicts: being treated as an adult by one's mother and father; obeying one's parents; being loved by one's mother and father; jealousy; loving one's mother and father.

Personal-achievement conflicts: school marks; popularity; being liked by those who know you; living up to one's ideals; being a popular dancing partner; achievements in sports; being respected by acquaintances.

Personal-characteristics conflict: intelligence; good looks; health; being able to dress well; chances of going to college; chances of getting married sometime; chances of a

* From *Fulcra of Conflict*, World Book Company, Yonkers-on-Hudson. New York, 1938, pp 239-241.

job after graduation; will power and self-control; family prestige and backing; wealth of family.

Health conflicts: good looks; health; achievements in sports; industriousness.

Conduct conflicts (morals and guilt) · religiousness; smoking; living up to one's ideals; cheating in classwork; drinking intoxicants; indulging in risqué stories; indulging in petting parties; having good or bad luck; having trouble with school authorities; having sex thoughts or phantasies; cheating in games and sports; betting and gambling; being honest; unselfishness.

Sex conflicts: indulging in risqué stories; chances of getting married sometime; being a popular dancing partner; indulging in petting parties; having sex thoughts or phantasies; will power and self-control; shyness at social affairs; having love affairs; jealousy; having friends of the opposite or same sex.

Economic conflicts: being able to dress well; chances of going to college; importance of a job after graduation; having pleasant home for one's entertaining; having enough spending money; family prestige and backing; wealth of family.

School conflicts: intelligence; school marks; cheating in classwork; chances of going to college; having trouble with school authorities; industriousness.

Repeated efforts to reach unattainable goals are futile. An exaggerated example of this is to be found in the lines of the satirist:

> Why can I not look in my ear with my eye?
> If I set myself to it,
> I know I can do it.
> You never can tell till you try.

Much time and energy are wasted by this method of meeting frustration, and in the process other opportunities for achievement are overlooked. Of course, it is important not to underestimate abilities and aim too low. Persistent effort to overcome apparently insuperable obstacles has laid the foundations for some of the most successful and worthy careers in

history. Such effort unwisely directed, however, has probably caused many heartbreaking failures. A well-known mental hygienist has raised the question recently as to whether or not the task that seems extremely difficult for an individual is really the appropriate task for him. Such a criterion of desirable effort should surely be counterbalanced by comprehensive knowledge of self and sound standards of value, if aimless drifting is to be avoided. The student who has put forth his best efforts in a particular field of study without fairly commensurate results could probably improve his chances of growth and service by shifting his efforts to another field.

Evasion of facts solves no problems. It is a sedative that increases the difficulties of adjustment. The habit of avoiding reality and failing to assume responsibility for the consequences of conduct may reveal itself in the side-stepping of issues, continual alibis, rationalization, shirking of responsibility, blaming others for failures, and all the varieties of mental dishonesty that warp the personality and prevent one from securing the trust, confidence, and cooperation of others. More important still, it prevents the development of an integrated or unified personality, since there is no recognition of inconsistencies and discrepancies which are certain to exist under such circumstances. This means that the whole force of the personality cannot be mobilized to act as a unit in an emergency.

Facing facts squarely calls for more courage at times than meeting physical danger, yet sometimes the mere facing of them resolves the conflict. To ignore the facts is often the beginning of much trouble. When an unpleasant experience is crowded out of the consciousness and apparently forgotten, it may continue to work underground and return in a disguise, perhaps friendly and acceptable, only to turn on its victim unexpectedly and cause no end of trouble. "Ye shall know the truth, and the truth shall make you free" is as applicable in the whole realm of the mental life as in the spiritual.

There are innumerable ways in which we may evade unpleasant situations and actually fool ourselves as to what we are doing. Such tactics may give us temporary relief from unpleasantness, but they do not solve our problems any more than running from a fire will put out the conflagration. Here

are illustrations of a few ways in which we often evade or distort reality.

Withdrawal from the struggle. This method may be manifested merely by lack of effort and may result in aimless, ineffective living and an inadequate personality. Again, the energy of the thwarted drives may be directed toward daydreaming in which the urges are satisfied in the imaginary realm built up in place of the real world. If this world of phantasy becomes more satisfying than the real world, it often is substituted completely for the latter, and the individual becomes, as we say, insane. Probably most normal people use this withdrawal mechanism in less exaggerated forms at times, but it should not become the habitual way of meeting problems.

Many students can recall missing a dreaded examination or class period because of a headache or other physical indisposition. Such occurrences smack of the small boy who is ill at schooltime but soon recovers sufficiently to enjoy play. Chronic invalidism is often an unconscious escape from an unsatisfying life, resulting in attention and care that are balm to a hurt or hampered soul. It is important that we recognize these neurotic evasions often evidenced through such common traits as indecision, procrastination, or postponement of difficult tasks, dependence on others, or unwillingness to accept responsibility or hardship.

Denying the situation.

Harry J. is reported each week to the counselor as failing in three subjects. In conference he invariably explains that he is doing much better now and is sure his work must be passing, in spite of the fact that reports from his teachers indicate no improvement. He is chiefly interested in discussing his designs for houses which he says are to be used by some friends of his family who are contemplating building homes. Investigation shows that he has greatly overestimated the value of his designs and misjudged the intentions of friends to use them. He is refusing to face the fact of his unsatisfactory schoolwork and is gaining satisfaction in his imagined achievements in designing.

Facing facts does not mean a continuous dwelling upon the unpleasant or disagreeable ones. However, they should be given enough attention to be dealt with as effectively as possible. If one accepts difficult problems as a part of life, it is

often possible to solve them as objectively as the scientist studies pests or earthquakes, which to most of us are annoyances rather than interesting phenomena. Useless and stultifying self-pity is thus avoided.

Daydreams and phantasies. Daydreams are a source of some of our loftiest ambitions and ideals. They may serve as a means of compensating for disappointing features of life and also as a means of gaining a perspective that will enable a person to carry on or to have courage to make a leap necessary for victorious achievement. Their danger lies in the confusing of fact and phantasy where real life is lost sight of and the easy satisfactions of the life of phantasy are substituted for the hardwon victories of the world of reality.

Mary J., a freshman in college, came to the counselor apparently much concerned over the choice of a lifework. A brief conference revealed extreme unhappiness over her failure to enter into the social life of the college successfully. Sensitiveness over an unattractive appearance in early adolescence, probably due to a temporary glandular imbalance, had caused her to withdraw from most social contacts while in high school and to resort to daydreaming for her satisfactions. In her dreams she was the "life of the party" or participating in some out-of-door sport. In real life she was painfully shy and self-conscious and had not learned to engage in any sport.

A program of training in swimming, tennis, and dancing was planned, but for several months she confessed to little real interest in her efforts to prepare herself for such activities and a continued desire to resort to her daydreams for her satisfactions. At the present time she has lost much of her social timidity, has made some enjoyable friendships, and has gained considerable proficiency in several sports. It will be some time, probably, before these real experiences become an adequate substitute for her daydreams, but when they do, she will have laid some of the foundations for wholesome living that she could not have achieved while dominated by her daydreaming habit.

Many life patients in institutions for the mentally ill have built up realms of phantasy within which they live surrounded by impenetrable barriers to the real world. Some apparently normal individuals view life through their distorted dream worlds and thus create difficult problems of adjustment for themselves.

Alcohol and narcotics. Alcohol, opium, morphine, and other habit-forming drugs have long been used to find surcease from physical or mental distress. Alcohol causes the drinker to forget unpleasant burdens or responsibilities, and in sufficient quantities it radically changes his whole personality temporarily. Opiates alleviate physical pain and produce pleasurable sensations. In large quantities they may cause a high state of emotion and a tendency to violence. Any narcotic, if used in sufficient quantity over a period of time, may produce marked permanent changes in personality, involving deterioration of the higher mental processes and aberrations in the perceptions, sensations, and emotions. Anyone tempted to use drugs as an escape from the distress of inner conflict should recognize that they solve nothing and result in the lessened ability to cope with life.

Neurotic evasions and manifestations. Failure to recognize an emotional conflict for what it is or an attempt to suppress a seemingly futile urge may block the emotional drive involved. The continuous damming up of energies may continue for a time, but ultimately, if normal avenues of expression are closed, they will find outlets in many ways not recognized as the original urges.

It has long been recognized that many types of physical disorder for which no organic cause can be discovered are functional manifestations of a frustrated personality. The chronic invalid who has enslaved members of her family by demanding constant care and attention is a common example of this sort of situation. Many lives have been sacrificed to the selfish demands of such neurotics whose energies have been turned inward and concentrated upon self. Preoccupation with physical symptoms is often characteristic of these neurotics, and they imagine that they have all sorts of diseases. The neurotic ailment oftentimes serves as a means of escape from responsibilities that have become unpleasant or that the individual feels incompetent to meet adequately.

A constant state of restlessness, uneasiness, fear, or anxiety or an unreasoning compulsion to perform meaningless acts are other neurotic manifestations of unresolved conflicts which may render an individual incompetent to carry on normal living. The cure for such conditions usually involves discovering the

sources of conflict and finding worthy and satisfying means of self-expression and self-realization. A career or some creative expression, religion, social service, hobbies, or recreation are among the innumerable outlets that can be utilized.

The study and treatment of war neuroses that developed under the severe stress of modern warfare have increased our understanding of anxieties caused by the stresses of civilian life. During World War I some soldiers developed forms of paralysis and other disabilities that prevented them from engaging in active combat but that disappeared under painful electrical treatment or hypnosis. In some instances they disappeared spontaneously after the armistice was declared. These soldiers were not consciously malingering or playing safe. They were confronted by unbearable conflicts between the urge for self-protection and the desire to be courageous. Admission of cowardice with its social disapproval would have been too painful to face, but the subconscious played one of its tricks by incapacitating them physically.

Available reports of psychiatric casualties in World War II, in which combat conditions were more terrifying, reveal the gamut of known neurotic and psychotic symptoms, some of which were mentioned in Chap. XXI.* A new type of treatment called narcosynthesis was used successfully with many patients. Under the influence of a drug and with the help of a psychiatrist the patient was able to reenact the intense emotions associated with his battle experiences. These emotions had been repressed but were perpetuated in various physical and mental symptoms such as loss of speech, blindness, infantile behavior, tremors, nausea, or staggering gait. Under this treatment many patients were able to synthesize the emotions and memories connected with their experiences, regain control of their shattered powers, and restore contact with the world of reality, both past and present. Psychiatrists were able to observe the varying levels of tolerance beyond which the ego of these men could not endure and remain in conscious control (102).

Distorting reality. Mental perspective is quite as likely to vary in accuracy as visual perspective. Our motives and

desires, our emotional tone and mental attitudes all determine what we attend to and what we perceive. We might compare our minds in this respect to a camera, but we must note that the lens is colored by our varied moods and the sensitive plate is invariably one that has received and retained many previous impressions. Thus the outlines of each new impression are mingled with those already there. Also, impressions are received not only from external sources but from within ourselves in the form of wishes and anticipations. The resulting pictures are often as blurred and distorted in appearance as those developed from a camera film that has suffered double exposure.

Regression to childish forms of satisfaction is a handicapping type of adjustment. We have already noted some of the stages through which everyone passes in growing up (see pages 335-342). If we have failed to outgrow some of our childish ways and have failed to develop sufficient hardihood in facing difficulties, we are easy prey to this regression tendency. Temper tantrums, sulking, revenge, obstinacy, self-pity, bids for attention, and undue concern for creature comforts are a few of the infantile patterns that we can frequently discover in ourselves and others.

Mildred X, a young woman in her thirties and a somewhat spoiled only child, broke a marriage engagement because of her fiancé's criticism of her unwillingness to adapt herself to certain aspects of his social life. She had never entirely freed herself from dependence on her mother, and following this disappointment she reverted to an almost infantile stage of dependence for the supplying of her physical needs and comforts. Her mother devoted practically all her time to choosing, making, and caring for Mildred's clothes; the preparation and serving of her meals; and numerous other personal services. A newborn infant would scarcely have had more attention than this young woman received. She readily admitted that creature comforts were her chief sources of satisfaction in life.

In her professional work as a teacher she identified herself with adolescent young people and entered enthusiastically into their interests and activities. Outside her work her chief interest became centered in her college sorority, which retained the same prominent position in her life that it had occupied in college years. Her relationships with friends and coworkers involved many tensions. A difficulty in her work or an imagined slight by a friend would cause a profound emotional upset that sometimes resulted in a childish

temper tantrum or a refusal to speak to an offending individual. Her religion served as an escape from some of her conflicts, but it was essentially an adolescent experience which did not help her to cope with her problems.

Regression is really a form of escape that binds one to the past and interferes with adjustment to changing conditions.

What are desirable ways of resolving conflicts?

"Life is one grand, glorious struggle, which every normal individual enjoys as long as the struggle does not result in the capitulation of his ego. To prove that we are the master of our environment, that the difficulties of life have only served to prepare us the better for the next conflict—that is life." *

Facing the conflict and analyzing its sources. Just as a wound must be probed and cleansed of impurities to prevent infection, so an internal conflict should be faced and analyzed to avoid the possibility of a festered condition in the personality. A bit of unpleasant probing at the start may oftentimes prevent later unhappiness or mental illness. Before this probing can be done very successfully, however, it is necessary to have achieved a fairly objective attitude toward one's personal desires and problems. Otherwise the process may involve only a morbid, highly emotional mulling over of difficulties. Recognizing that conflict is apparently universal and that growth takes place as conflicts are met and resolved effectively helps one to gain a perspective about personal conflicts and to avoid the morass of self-pity. It affords comfort and assurance to know that one is not unique in the possession of conflicting urges or in the meeting of obstacles. Also, reflection on the fact that the greater the conflict the greater the possibilities for growth and mastery should serve as a challenge if the conflict seems overpowering. A cumulation of apparently unimportant conflicts that have not been faced and resolved may cause more trouble than a more obvious difficulty that demands and gains attention at once.

A consideration of possible solutions. If the problem is caused solely by the conflict of inner urges, such as the desire to excel in work and the desire for recreation or the urge to do

* Reprinted from Morgan, John J. B · *The Psychology of the Unadjusted School Child,* by permission of the Macmillan Company, New York, p 31

something out of harmony with previously established standards of conduct, a person should ask himself the following questions: What are the probable consequences of the contemplated activities? Which course of action will bring the greatest or the most lasting satisfaction? Which will result in the largest amount of growth?

If one urge is not ruled out by tentative answers to these questions, the next question to be raised might be: How can a compromise plan of action be developed allowing for the satisfaction of both urges? Such a plan may involve the temporary postponement of activities connected with one set of desires or the readjustment of each to allow for the other.

When the conflict is due to a personal limitation, such as a physical or mental handicap or the lack of special abilities essential for a desired activity, there are at least two questions to be raised. Can the personal limitations be removed or overcome; if so, how? If the limitation appears to be insuperable, what substitute activities can be planned that will compensate adequately for the frustrated ones?

When the source of the difficulty lies in external conditions, such as limiting features of the physical or social environment or a conflict with the desires or interests of other people, the following questions are suggestive of desirable possibilities: Can the limiting environmental conditions be changed; if so, how? What will be the probable effects on self or others of mastering the situation? If undesirable results are likely to ensue, will the mastery be worth while? What are the possibilities for a constructive compromise? Can you change your desires or interests and thus eliminate the conflict? What are the possibilities for solving the problem of a conflict with the interests of another person by the application of the principle of "live and let live"?

Most human problems involve several or all of the factors considered above and therefore are sufficiently complex to call for the application of most of the suggested approaches.

Action based upon reasoned choice. A satisfactory outlet for the energy of emotional drives is the ultimate goal of the reflective process outlined above. Otherwise we are making Hamlets of ourselves with an ineffective "To be or not to be" philosophy. 'Twere better to have lived and failed a little

than never to have lived at all. The important point is to bring the higher thought processes into action in a conflict and not to leave the fighting to the blind forces of emotion. But the emotions should not be discounted or pushed into obscurity. They should be brought under the control and leadership of intelligence. Peace without victory is often the only possible—and perhaps often the most desirable—outcome of a conflict.

Sometimes this outcome is achieved through a compromise plan of action which allows for a partial victory and a partial defeat of each factor involved. Again, it may be achieved through a complete transformation of the original urges. Such a process is called sublimation. The primitive urges of sex, fear, and rage, for example, cannot find a full and direct outlet in civilized society. The energy connected with these drives is not specific and may be expressed through many activities not directly related to the original drives. Much of the science and art of our civilization is probably the result of such a transformation of energy. Without such transformation we should revert to an uncivilized state or live much more frustrated lives than is now our fate.

Personal Inventory

Are you suffering from any frustrations? Make a list, and classify them according to the outline on page 359.

For each frustration listed, try to discover the possible sources, and classify these sources according to the categories given on page 359.

Compare your present lists with those made earlier (see page 359) to see how much insight into your behavior may have been gained by your study of this problem.

For each frustration listed that appears to have an adverse effect in your life outline a feasible solution.

Write a brief paragraph on your present level of frustration tolerance, and suggest plans for raising it.

Examine the list of sources of conflict on pages 368-369, and note those which might apply to you.

Choose a conflict in your life, and outline a suitable plan for resolving it.

Suggested Readings (see Selected References, pp. 471-483): 2, pp. 159-234; 70; 102; 219; 199, pp. 83-277; 233.

CHAPTER XXIII

ACHIEVING MENTAL HEALTH

What constitutes mental health?

Mental health, like physical health, is a relative matter. We all have mental as well as physical deviations from an ideal norm and cannot expect perfection in either case. However, there are some positive standards with which to compare our health status, and we should have an understanding of the danger signals of ill health. Criteria should be set up, without too great concern for trifling deviations. The following definition of a healthy personality might serve as a general standard for an initial appraisal:

Let us define mental health as the adjustment of human beings to the world and to each other with a maximum of effectiveness and happiness. Not just efficiency, or just contentment, or the grace of obeying the rules of the game cheerfully. It is all of these together. It is the ability to maintain an even temper, an alert intelligence, socially considerate behavior, and a happy disposition (156, p. 2).

What are the requisites for developing a wholesome and effective personality?

Understanding and effective use of personal assets and liabilities. The purpose of the preceding sections on personality appraisal and development has been to help the reader achieve self-knowledge. Ways have been suggested for taking stock of inherited potentialities. Also, the various influences of environment have been considered. We have noted how the unique qualities of the individual are developed through the interplay of heredity and environment and ways in which they may prove to be assets or liabilities. If you have consistently applied this previous discussion to yourself, you should have acquired considerable self-knowledge to use as a basis for the planning and direction of future growth and development.

Each of us would like to change some unalterable aspects of

self. Probably the most effective procedure is to try to make the *most* of our strong points and the best of our weak ones. Making the *best* of our weaknesses may sometimes mean overcoming them or turning them into strengths. Frequently it means accepting some of them philosophically and compensating through well-chosen activities that will bring the whole pattern of abilities into fullest play.

We do not really know ourselves until we understand the sources of our attitudes and habits; and unless we do understand them and use them intelligently to gain what we most want of life, they become our masters and we their slaves.

Attainable and flexible goals appropriate to growing abilities and interests. In setting up goals for self-development as well as for objective achievement we should have some goals before us that can be attained without too great effort. Without goals beckoning us on we can easily become lost in a morass of indecision and momentary pleasures, but with goals too ambitious or unattainable we may become discouraged and turn aside with a sense of failure, agreeing with Ulysses that

> All experience is an arch where through
> Gleams that untraveled world
> Whose margin fades forever and forever as we move.

This does not mean that we should not have high ideals and ambitions but that we should set up attainable, intermediate goals along the way to give us a sense of victory and the courage "to strive, to seek, to find" the ideal world and make it real.

The setting up of attainable goals is dependent upon self-knowledge, which in itself is a goal that none can attain with perfection. A self-appraisal such as the one suggested in this book is only a starting point. At best it can survey the ground, lay the foundations, and help to develop a technique of self-direction that may be used with increasing skill as the years pass and life's experiences draw more deeply upon our potentialities. This means, of course, that as we gain fuller self-realization, our goals of achievement must be flexible and grow with us. Thus our lesser goals become landmarks on life's pathway, and our higher goals become directive points without discouraging us because of our inability to reach them.

A technique of living based on principles of mental hygiene. We shall consider here a few of the most significant conditions for healthful mental activity.

Learn to face facts with courage and optimism. We have already noted how the evasion of reality may prove one of the most difficult pitfalls in our development. Everyone has both pleasant and unpleasant facts to face in living, some of them inherent in external conditions and some of them inherent in one's self. Morbid brooding over problems or failure to recognize them will not help to solve them. The first method may cause one to exaggerate them, and the second to undervalue their seriousness.

We all have our ups and downs in life. Blaming our defeats upon circumstances or other people or securing our successes in our daydreams is futile. Objective analysis of defeats and successes may give us some of our deepest insight into the factors that make for efficient happy living.

Facing unpleasant conditions or disturbing conflicts with courage involves intelligent effort to improve the condition or resolve the conflict. If after objective study and earnest effort there seems to be no escape or solution, the only sensible alternative is to make the best of the situation. Wholesome fortitude is not tinged with either self-pity or enjoyment of misery. Experience teaches that how one feels at a particular moment is relatively unimportant except as the drive to action associated with emotion is harnessed and directed toward achievement. Emotional states are ephemeral and inevitably change or disappear.

No one should assume that he will be specially privileged to escape hurts or disappointments. The person so consumed with self-love and self-concern that he cannot bear the thought of anything difficult or unpleasant or even catastrophic touching his life is indulging in childish self-deception. Owing to the vicissitudes of life, where fortitude has not been built up by education, nervous breakdown is imminent.

Growing up emotionally. One fundamental characteristic of the mature person is the ability to meet each new experience, pleasant or unpleasant, easy or hard, without loss of poise and perspective and to wrest from it new insights about life. This

ability is essential for orderly growth and wholesome adjustment.

Growing pains are as inevitable in emotional growth as in physical growth. Emotional growth requires the occasional postponement of immediate satisfactions for future good, the abandonment of old habits for new ones, the sacrifice of the comfort of accustomed securities for the untried and the uncertain. Most important of all, it involves a gradual shift from the self-centeredness of infancy to a broad social consciousness that means interest and concern for the welfare and happiness of others even to the detriment at times of one's own seeming good.

Apparent sacrifice for others is not always evidence of real maturity. Some individuals enjoy self-sacrifice and by their conduct enslave others more than they help them. Such martyrdom is essentially childish and selfish. The truly adult person has so identified his interests with those of his fellow beings that his efforts toward the common good do not involve a sense of sacrifice so much as self-realization.

A good balance is needed between self-reliance and a normal sense of dependence. A normal sense of dependence is an important condition of mental health—first a dependence on parents, later on social groups, and eventually also upon something higher, such as ethical standards and ideals or an omniscient Being. This sense of dependence, however, should be balanced by a normal self-reliance essential to growing up. This self-reliance should develop out of success in suitable tasks which produces a positive attitude of confidence in attacking progressively more difficult tasks.

Keeping physically fit. A regimen of living that allows for a desirable alternation of work, rest, and recreation and suitable exercise and food is essential for both physical and mental health. Remediable defects that may impair vitality or hinder effective living should receive attention.

Sources of infection in the body not only lower physical vitality but may result in temporary or prolonged emotional and mental disturbances. One of the most deadly organisms that may invade the nervous system and cause permanent injury is the spirochete responsible for syphilis, a venereal disease. An uncured but latent syphilitic infection may be

manifested years later in a mental disease that results from the destruction of brain and spinal tissues by the spirochete. More than 10 per cent of commitments to state hospitals for the insane are due to this disease called general paresis. A form called juvenile paresis may be caused by infection from the mother before birth. A nation-wide campaign has been carried on for several years to stamp out venereal diseases through public enlightenment about causes and cures. For many years quackery has played upon human fears regarding these diseases and has exploited human gullibility about quick and easy cures. No one today should lack sound information about the common sources of infection and reliable cures in the early stages of the disease before it has attacked the nervous system.

A disease that may resemble paresis in its symptoms is caused in some individuals by continued and excessive use of alcohol. Some narcotic drugs may also produce permanent changes in the nervous system with accompanying mental derangements.

The relationship between physical and mental health is reciprocal. Mental and emotional disturbances frequently produce physical symptoms that have no apparent foundation in organic condition. We have already noted neurotic evasions that serve an adjustive purpose with the individual who has not learned to meet his problems of living satisfactorily (see pages 373-374). Also many organic conditions of ill health are associated with states of fear, anxiety, and emotional conflict. Modern diagnosis and treatment of some gastrointestinal disorders, for example, include a study of the emotional adjustment of the individual.

To conserve physical and mental health a person should have a systematic check upon his health status at suitable intervals and make any adjustments in regimen of living that seem to be indicated by the findings. Beyond this an important rule of mental hygiene is to avoid undue concern or preoccupation with "symptoms." Everyone has trifling deviations that should receive no more attention than the weather or harmless but annoying pests. The person who is continually concerned about his health is the worst possible pest both to himself and to others.

Live in the present. Burnham has emphasized the great importance of living in the present. "The type of healthful attention is everywhere attention to the present situation. So important is this for mental health that one's ability to concentrate upon the present, ignoring the past and future except as vitally related to the present, is, in a certain sense, a gage of one's sanity" (40, p. 642).*

Anxiety or worry about the past or future is often a beginning and cause as well as a characteristic symptom of mental breakdown. Austin Fox Riggs has defined worry as "a complete circle of inefficient thought whirling about a pivot of fear. To avoid it," he advises, "consider first whether the problem in hand is actually your business. If it is *not*, turn to something else. If it *is* your business, decide next whether it be your business *now*. . . . Do one thing at a time." † The frequent conflict between the social need to work for distant ends, restraining the impulse or foregoing the pleasure of the moment for future good, and the fundamental need of giving attention to the present situation creates many problems for the individual.

Develop self-mastery through controlled self-expression. No impression without expression is an important principle of mental hygiene, but the effective control of both impressions and expressions is an equally important corollary.

The need for adequate means of self-expression is indicated in the physiology of the emotions. In a state of worry, fear, or rage the increased secretion of adrenalin into the blood mobilizes energy for vigorous action. If no action occurs, the nervous tension involved is unrelieved, and unnecessary nervous strain results. Of course, the direct and spontaneous expression of all inner drives to action is both impossible and undesirable. The problem consists of controlling and directing impulses instead of merely repressing them. The possibilities of substituting a desirable reaction for an undesirable one or of sublimating the energy of a drive through various channels of interest and activity have been considered previously.

* Reprinted from *The Normal Mind,* by permission of D. Appleton-Century Company, Inc., New York.

† Reprinted from *Just Nerves,* by permission of Houghton Mifflin Company, Boston.

The wholesome reaction to stimuli from within is as important as the reaction to external stimuli. Daydreams and reverie need watching. Reverie has been called the inner workshop of personality. We cannot direct our growth without controlling and directing our reverie. One effective means is to become thoroughly interested in the outside world and thus turn our attention and energies outward instead of centering them on ourselves.

During the process of growing up and adjusting to life conditions our native drives, acquired purposes, and emotional patterns become associated in behavior systems that furnish motive and drive for activities often far removed from those which would directly satisfy the original urges. A student, for example, may work hard at studies that in themselves do not furnish much incentive. But success in them may mean a certain amount of immediate prestige among his fellows and progress toward a desired vocation which, in turn, means a livelihood and the possibility of establishing a family and achieving a certain social status.

Clashes among interests and drives are inevitable. An important factor in control is the ability to distinguish between fundamental needs and superficial wants. One may need some good business clothes but want a new dress suit or evening dress and not be able to have both immediately. Relative values of needs and wants are seldom defined so clearly. Foresight and self-control are needed to weigh values and judge the satisfaction that will best contribute at a particular time to what one wants most in life.

The sex urge, because of its strength and the many social restrictions built around it in civilized society, is perhaps more often in conflict with other drives and more often repressed unconsciously than other native urges. A disappointment in love, an unfortunate sex experience, or the failure to recognize and consciously redirect the sex drive have many times been conditioning factors in causing mental illness or maladjustment.

Physical limitations that prevent one from engaging in activities normally or from achieving coveted ambitions are prolific sources of emotional conflict and often exert crippling effects upon personality. Byron's lameness undoubtedly helped

to make him very sensitive and contributed to his unhappy disposition. The sense of frustration that so often results from a physical handicap may find expression in traits of personality or conduct that appear on the surface to be totally unrelated to the real cause. Apparent conceit, stubbornness, or perverseness may, in reality, be unconscious compensations for a sense of lack and dissatisfaction. An unwholesome attitude toward a limitation involving an unwillingness to accept it and compensate for it may prove more handicapping than the defect itself.

"Every interest is potentially a means of self-control" and an aid to adequate self-expression. The same may be said of every skill or developed aptitude, social, athletic, manual, aesthetic, or intellectual, that may provide creative or recreational outlets and a sense of achievement. Do not carry all your eggs in one basket. Have enough interests and skills so that the loss or impairment of one will not be a devastating experience. One interest, such as a vocation, may be the dominating one, but the others will help to keep your development well balanced and will add zest and fullness of satisfaction to living. Share your interests with others, and their value will be enhanced manyfold.

Adjust your environment and way of life to the strain that you can stand. We live amid a veritable barrage of stimuli, only a small portion of which we actually perceive. The barriers that we build up against this multitude of stimuli are a means of self-preservation. Burnham stresses, however, the importance for mental health of optimum stimulation and response. He says:

> The vigorous explosion of nervous energy seems to be an essential for thoroughly normal functioning. Excitement even seems to be necessary. Only those who could endure excitement have survived in evolution. The human race has come up through excitement of every kind. Excitement within limits seems to be normal and hygienic. It is a tonic to the mind like vigorous exercise for the body (40, p. 646).*

In deciding what is a healthful way of life, one should consider not only the degree of stimulation and excitement desir-

* Reprinted from Burnham, *op. cit.*

able but also the desirable limits of strain in vocational activity.   Both physical and mental demands should be studied before a lifework is chosen.

An excellent suggestion for the conservation of energy is contained in Rigg's statement: "Be efficient in what you do. . . . In short, do not drive your tacks with a sledge hammer.   There is a better, less fatiguing way.   Find out how easily you can do things well, and take pride in such skill." *

Achieve some successful and satisfying social relationships. Social relationships are as necessary for mental growth as are food, water, and air for physical development.   Individuals vary considerably in their ability to make happy social contacts.   Differences are due partly to innate temperament and disposition but are largely the result of differences in developed attitudes and habits that may either antagonize or attract others.   Some persons seem neither to attract nor to repel others but merely to fail to secure their attention.   This situation often causes as much unhappiness as distinct unpopularity does, since it is natural for every human being to desire recognition.   Popular writers and lecturers give much advice on how to attract others and cause them to like you, but little objective study of the problem has been made.   One such study was summarized in Chap. III.†

It does not matter especially for mental health whether these social contacts involve a followership or a leadership relation to the group.   Some of both is desirable.   But the important point is to enter wholeheartedly and unselfishly into the lives of others and be able to identify yourself with groups and individuals in ways to broaden and objectify your interests.   Cooperation in a cause greater than self is one of the best means of developing a finer self.

Complete submergence in a group with the resulting loss of normal aggressiveness is not a healthful condition, however. Burnham has summarized succinctly the nature of healthful social relations: "To act with others as follower, or leader, to serve, to cooperate, on occasion to resent, or to fight, represent healthful attitudes and healthful forms of activity; to deceive,

* Reprinted from Riggs, *op. cit.*
† See pp. 40-43.

to act cruelly, to be suspicious, to hold a grudge, represent unhealthful as well as unsocial mental attitudes" (40, p. 644). Love represents the healthful and hate the unhealthful aspect of the social emotions.

Learn to control unhealthful reactions. A self-inventory will reveal undesirable tendencies which, however, should not be disturbing. Much of the valuable work of the world is done by persons who may have some of these characteristics even in pronounced degrees but who have turned them into constructive channels. Burnham, a pioneer in the study of what constitutes a wholesome personality, has said:

The normal mind is not one that is perfectly integrated and free from defects, arrests of development, or even from attitudes and habits of thought similar to those characteristic of pathological conditions, but rather it is a mind that can compensate for its defects and weaknesses, that can correct its own errors and is able to control its pathological tendencies, or . . . a mind that under ordinary conditions can function normally (40, pp. 54-55).*

Recognizing the unhealthful tendencies for what they are is half the battle, and this understanding combined with a thoughtful application of mental-hygiene principles should enable one to develop a successful technique for dealing with deviations.

How is your mental health? Which of the following questions should be answered in the affirmative to describe your usual behavior?

Do you avoid things that are hard or unpleasant for you?

Do you brood or grieve for some time over disappointments or failures?

Do you dream about things that you wish to do instead of preparing or trying to do them?

Are you always making excuses for yourself and blaming other people or circumstances?

Does worry interfere with your efficiency?

Do you feel dissatisfied with yourself and with life?

Are you jealous of other people?

Do you hold grudges and try to get even with people who slight you or treat you unfairly?

* Reprinted from Burnham, *op. cit.*

Do you think that you are always right and fail to see the other person's point of view?

Do you lack faith and confidence in yourself?

Do you tend to exaggerate?

Is it difficult for you to concentrate on a problem without worry or irrelevant ideas?

Do you have ups and downs in mood without much apparent cause?

Do you often feel excited, jumpy, or emotionally upset?

Are your feelings easily hurt, and do you sulk or have fits of temper?

Do you feel bottled up within yourself with no way of expressing how you think or feel?

Do you enjoy hurting another person's feelings?

Are you suspicious of the motives of other people?

Do you often feel that people are talking about you or ridiculing you?

Do you avoid people and live too much within yourself?

Do you lack interest in people and activities?

Do you lack any aim or purpose in life?

Do you feel tired most of the time?

Do you have many aches and pains or physical "symptoms" for which no cause can be found?

Do you have specific fears that bother you or frequent compulsions to do certain things?

Do you feel unhappy a good deal of the time?

Every normal person will be able to identify some of his own behavior tendencies from these questions. The next step is to discover how each unhealthful trend can be eliminated or turned into constructive activity. This may be fairly simple with some of them. We can change our mental attitudes and habits if we understand them and want to change them. When, however, we cannot understand why we behave as we do, we may need reliable outside help to gain insight and to plan a helpful program for overcoming the difficulties.

Self-study may be aided by grouping into three categories the tendencies to be appraised: (1) those which involve *attitudes toward others* and group adjustment; (2) those which relate to *attitudes toward self;* and (3) those which grow out of *attitudes toward life* in general. As a starting point try to

group your affirmative responses in the list under these three headings to see in which category you have the most problem tendencies. Some of the items may need to be classified in more than one group. All three groups are closely interrelated.

The person who adapts easily to other people as leader, follower, or in either capacity is less likely to have difficulties in group adjustments than the seclusive person who finds it difficult to establish friendly relationships with others. The seclusive individual may have limited group relationships because of a lack of interest in people or because of preoccupation with ideas. Very often, however, his isolation is due to an inability to enter into group activities effectively; he is an outsider who wishes that he "belonged." Resentment or embarrassment at not being accepted by others may lead to unfriendly or antagonistic attitudes; lack of association with others may prevent understanding of their motives and behavior and lead to distorted points of view.

The socially immature person who has not yet developed a sincere interest in others and learned to give and take will usually be such a poor sport that he is disliked. The overly timid individual may recoil from the uncertainties, rebuffs, and hardships of the outer world and build a protective shell around his inner world of dreams in which he gains his ultimately meaningless satisfactions. If he ventures out of his shell, he may become overly submissive in his relationships with others or put on a bold front and become unpleasantly aggressive. If he withdraws too completely into his shell, he may lose contact with the real world and eventually join the ranks of the mentally ill who live in a world of phantasy.

The suspicious attitude toward others is one that needs watching. Unchecked, a strong trend of this sort may develop over the years into delusions of persecution that seriously impair mental health. The line between healthy skepticism and unhealthy suspicion is ill defined at times in thoroughly normal individuals. Some of the criteria of a wholesome trend are friendly, unselfish interest in others, satisfactory social relationships, and objective verification of one's ideas. Hate, jealousy, suspicion, intolerance, and seclusiveness furnish fertile soil for the growth of unwholesome trends.

Self-attitudes are as important as group attitudes for sound mental health. A perfectionist attitude with respect to self may lead toward disillusionment and a resulting sense of unworthiness, sin, or degradation or toward ideas of grandeur and superiority and the belief that the king, or queen, can do no wrong. Many mental patients have such obsessions. Other unwholesome self-attitudes grow out of a childish preoccupation with self that may be evidenced in fear, anxiety, avoidance of discomfort, self-pity, concern about health, and bids for attention and tender care. Individuals with these tendencies swell the ranks of unhappy, dissatisfied, and maladjusted neurotics.

In addition to infantile self-centeredness and emotional dependence that demand special consideration, there is frequently a foundation for a neurotic trend in mental dishonesty and undependability. This may be expressed in subtle ways that are not under the conscious control of the individual. An emotional conflict may be expressed through a variety of physical symptoms such as nausea, vomiting, diarrhea, and rapid pulse and respiration that have no basis in organic disorders. Also, the symptoms may appear at times most convenient for the satisfaction of certain desires. An intricate relationship between the emotions and the autonomic nervous system is involved in the production of these symptoms. Any of these trends may become established through bad training and unfortunate experiences in childhood. The cure which should come fairly early in life involves (1) a thorough understanding of the conditions or circumstances under which the tendency developed and (2) a remedial program that provides for healthful, objective interests and activities that will divert attention and energies away from self toward worth-while achievements. "Whosoever will lose his life . . . shall find it" is a Biblical teaching packed full of good mental hygiene. Its antithesis, "Whosoever will save his life shall lose it," is well illustrated in the lives of unfortunate neurotics who have forfeited the real joy of living for self-centered preoccupation with their ultimately worthless and burdensome lives.

Attitudes toward life that are danger signals are habitual pessimism or melancholy, unrealistic overoptimism, and alternation between these two extremes. The melancholy trend is

characterized by depression unwarranted by external conditions, lack of energy and self-confidence, and often extremely inhibited self-expression. Lincoln has been described by some of his biographers as possessing a strong melancholic tendency. His keen sense of humor, high intelligence, and certain highly developed social traits undoubtedly served as balancing factors to keep him on the safe side of the line of mental health. The overoptimistic person, as judged by external conditions, is blind to personal limitations; and since he cannot accept defeat graciously, he never recognizes it. A person with this trend may possess an apparently inexhaustible supply of energy and often expresses it in ceaseless activity. This attitude pattern may become the basis for a mental breakdown when the discrepancy between reality and acceptance becomes too great.

The changeable person with variable moods of elation and depression may manifest the traits of the two previous types in alternating cycles—now on the crest of a wave of optimism and activity and now in the trough of pessimism and inactivity. This same tendency in exaggerated form is characteristic of one form of mental disorder, but many individuals go safely through life without succumbing to the difficulty. An understanding of the rhythm of the cycle which in some respects is characteristic of all life helps one to cope with it better.

A philosophical attitude such as that embodied in the statement attributed to Lincoln, "This too will pass," will in most cases help to tide over the depressive period, which may with a calm but forward-looking viewpoint be used to accomplish work of a sort that would often irk one when in the more expansive mood. Then on the upward trend comes the opportunity for the more constructive activities demanding energy and enthusiasm.

It is possible with understanding and experience to control the peaks of the cycle so that neither mood becomes so exaggerated. The method of control will vary with the individual, and each must discover what helps him most. Religious faith, prayer, philosophy, poetry, recreation, friendly intercourse, hobbies, etc., have often proved valuable aids. An adequate perspective on life that prevents one from overestimating the importance of one's emotional reactions, a sense of humor, and

sufficient self-knowledge are also invaluable. Medical treatment of extreme conditions has proved helpful.

Develop your sense of humor. One requisite for dealing with unhealthful reactions is a mellow sense of humor that can be directed toward self as well as others. The ability to laugh at yourself sometimes instead of taking yourself too seriously is one of the best preventives of mental ill health. Whether directed toward self or toward others, the humor should be free from malice. J. B. S. Haldane once wrote, "I have never yet met a healthy person who worried very much about his health, or a really good person who worried much about his own soul." *

Maintain a fairly consistent cheerfulness or sense of happiness in living. Menninger has stressed this requisite to the point of saying, "Assume that the unhappy are always wrong" (156). If we accept this thesis, we shall all be under the necessity of admitting wrongdoing at times. But this may challenge us to ask ourselves upon what our happiness depends. Some philosophers have claimed that happiness can never be achieved through direct striving; that it comes only as a by-product of right living.

Goodwin Watson of Columbia University conducted a study based upon responses to a questionnaire of 388 graduate students of education, averaging thirty years of age. Self-estimates of happiness and of the factors contributing to it were called for. The author of the study brought together the more challenging findings in the form of hypotheses, a few of which are included here. He warns that since these are stated tersely, they appear more dogmatic than the selected group upon which they are based would warrant (249, pp. 79-109).

Failure in love is a major cause of unhappiness.

Enjoyment of, and success in, work is a major factor in happiness.

Popularity matters.

School marks do not matter.

Success in dealing with people is fundamental to happiness.

Religion, of the modern type, is not merely an escape for the unhappy.

* In *Adventures of a Biologist,* New York, Harper & Brothers, Publishers.

Youth is not the golden era of happiness; neither is age.

The comparative wealth of parents does not affect the happiness of children.

Quarrelsome parents, divorced, seem to hurt a child's happiness less than the same parents remaining together.

Participation in athletics is not significant for or against later happiness.

Ability at dancing, cards, athletics, writing, music, or painting is unrelated to happiness.

The married are happier than the unmarried.

Men believe themselves happier than women believe themselves to be.

Blessed are those who are elected to many offices.

Love of nature goes with greater happiness.

The essentials of happiness for most people are among the stable elements of life (friends, work, nature), not among the stimulants (alcohol, clubs, dancing, cards, automobiles, or arts).

Fears, sensitiveness, shyness are rightly regarded as major factors in unhappiness.

Happiness is associated with serious, deliberate, responsible, earnest, hard-working living rather than with impulsive, light, amusing dilettantism.

An adaptation of Watson's questionnaire was submitted to 250 junior-college students at Pasadena, California, for the purpose of discovering whether or not the judgments of younger students would differ materially from those of the more mature graduate students. Recreation and social and athletic skills were considered more important by the younger than by the older group. Emphasis was placed by both groups on friendships, successful relationships with other people, and success in work (vocation with the graduate students and academic work with freshman students).

Other studies of high-school, college, and graduate students have indicated that happy and unhappy students had similar problems and interests but that happy students were more concerned with affairs outside themselves than were the unhappy ones. Clear thinking about the real sources of happiness may help to give unhappy persons a desirable perspective on life and challenge others to question if they are laying the best foundations for real happiness in the future.

PERSONAL INVENTORY

Do you consider that you have sufficient self-knowledge to plan wisely for the future? What earlier plans seem unwise as a result of your present self-knowledge?

What important information about self do you still lack in order to plan fairly definitely? How much of this needed information can be secured at least partially by the methods suggested in previous chapters? What types of information must wait upon future experience?

List the major goals that you have set for yourself in life, arranging them in the approximate order in which you anticipate that you can attain them. Which are you fairly certain that you can attain? Which are likely to be "directive points" rather than attainable goals?

Review the principles of mental hygiene considered in this chapter with a view to discovering which you are applying effectively at present. Consider ways in which you may improve your applications of these principles.

List the evidences that you have found of unhealthful trends in your personality, and map out ways in which you think you can improve them.

List what you consider your present sources of happiness; of unhappiness. Compare these sources with the conclusions formulated by Watson. How many of your present sources of happiness or unhappiness do you think will be important factors in the future? How can you eliminate or compensate for any present unhappiness?

SUGGESTED READINGS (see Selected References, pp. 471-483): 15; 19; 40, pp. 599-640; 102; 119; 129, 134; 153; 156; 174; 178; 181; 187; 219; 240; 247.

CHAPTER XXIV

DEVELOPING A LIFE PHILOSOPHY

How can we develop a life philosophy?

Much of our activity from day to day is habitual without the exercise of conscious choice. Much of it is determined by external regulations of various kinds. Each day presents us with certain choices of action. Most of these choices seem unimportant; some strike us as momentous and challenge us to serious consideration of alternative courses of action. All of our choices and all of our actions affect our lives in some way. Through them we develop standards of value and loyalties that influence our future choices of action and, therefore, the nature of our lives. Gradually each of us develops a system of attitudes about ourselves, others, and life, which may be called a life philosophy. When we study and formulate this philosophy purposely and act in accordance with it, we use our power as human beings to influence the course of our lives.

To what extent may we become masters of our fate by striving purposefully for a desired way of life? Belief as to the extent to which this mastery may be achieved depends upon one's belief as to the nature of the forces or factors that determine life. A concept of the individual as a sort of puppet drawn hither and yon by forces beyond his control would allow of no self-directive inner control. Certainly in a democracy every person experiences what at least appears to be personal choice of action in an increasingly enlarged sphere as he grows into mature life.

We have witnessed in this century a type of educational control in totalitarian societies that created actual puppets subject to unquestioning or fearful obedience. We have also experienced within democracies the controls and regimentation of a total war to preserve our way of life from the encroachments of totalitarian states. Have we learned through this sacrifice and suffering in war that no individual or group can

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live uninfluenced by the lives of others near or far throughout the world? Every citizen in a democracy faces the responsibility of developing purposeful self-direction in harmony with the democratic goals of justice and opportunity for all men. Because of their special privileges for study of our human heritage and for self-realization, college students have special responsibilities for the development of philosophies of action that may contribute leadership and service in the human quest for an ever better way of life for all men.

There are several ways of acquiring a life philosophy. You may study all the schools of philosophy that have been developed in the past and choose the one that possesses the greatest personal appeal, or you may combine consistent aspects of any or all of them into an eclectic philosophy. Neither method is likely to yield a satisfying philosophy, however, since one's outlook on life usually changes over a period of years. Another approach is to extract from each school of thought what seem to be basic truths and test them out gradually in the light of observation, experience, and new truths as they are discovered. This method opens the way to an orderly growth of our beliefs, theories, and life values. Such a growing philosophy may serve as a criterion for evaluating the many confusing elements in experience and help as a directive force in life.

Hocking in his *Types of Philosophy* points out that not many of the great thinkers are perfectly typical. "Such men," he says, "take truth where they see it, and as they see it, whether or not their grasp of it achieves perfect coherence; believing that truth is consistent with itself, and that the discovery of its manner of hanging together may wait. Meanwhile they defy our classification; and we think of them as too great to be contained in an 'ism'" (112, p. 427). A patchwork-quilt sort of philosophy is confusing, but it is not so dangerous as the mold of a too-well-organized system that admits of no further changes. The latter may pinch like a tight shoe as the personality tries to grow and may have to be discarded to permit growth.

The college student has the opportunity of exploring in the richest of storehouses—the treasury of books in which is stored our heritage of great thinkers in the world. He has teachers to guide him in his explorations and fellow travelers with whom

to share his adventures in thought. He may appropriate as his own all that he has the time, energy, ability, and willingness to acquire. One of the tragedies of American college life is the number of students who let this opportunity slip through their fingers while grasping at the more glittering pleasures that have their values but will not by themselves lay the foundations for a satisfying and happy life. All fields of college study and all aspects of college experience can contribute to a well-rounded view of life, and the truly educated man is one who, through continuous, thoughtful evaluation of all his experiences, has built the foundations of a growing life philosophy out of the truths that he has quarried.

What are the types of values * that should be included in a life philosophy?

Truth values and how they function. What is truth, and what can one believe? These are age-old questions that still concern every thoughtful person. Also, how can one discover truths and use them in thinking and living? Some have depended on intuition and supposedly direct, mystical revelations of truth. Others have observed the processes in nature and the events of human life and have attempted to interpret their findings by means of the processes of human thought, such as analysis, synthesis, induction, and deduction. Sound thinkers have attempted to verify their findings and interpretations through research or experience. The schools of philosophy usually studied in introductory philosophy courses exemplify the applications of one or more of these methods.

The modern method of attempting to discover truth is the scientific method.† This method has opened up vistas of marvel and beauty in the universe that are almost overpowering in their scope and complexity. It has also demonstrated the horrible devastation that may result from its use for destructive purposes. The applications of science have already revolutionized our material existence, and still greater changes are doubtless ahead. Its application to methods of warfare has

* The term "values," as here used, connotes personal judgments of truth, worth, or excellence and personal attitudes and appreciations. No attempt has been made to conform to any philosophical theory of values.

† See Chap XV for a description of this method.

revealed the imperative necessity of human control of the material forces that have been unleashed. This human control depends upon the understanding and direction of the forces within human lives, an understanding and direction that have lagged far behind that of the material world. Human civilization and continued human existence may depend upon the speed and completeness with which this lag is overcome. Many express the conviction that not only science but also truly democratic living and religion are needed to bring into human relationships the spirit and power that may save mankind from the selfish and wanton use of scientific knowledge.

The individual who is concerned about conflicts between scientific findings and his own convictions may gain perspective by recognizing two important facts: (1) that scientific information may be accurate but not be complete and therefore not reveal the whole picture; (2) that many of our convictions may be habits of thought that have become so firmly entrenched that they seem to be self-evident truths.

Among the most fundamental values to be derived from college education are an orderly system of human knowledge, which is the product of individual study, thought, and applications in living, and a sound technique of acquiring, organizing, verifying, and using new truths. An educated person should know what he thinks and believes to be true and why; he should be able to distinguish between verified truths and probable truths and to recognize the foundations of beliefs that serve as his guides in the areas that his own or others' experience have not yet penetrated. The truly educated person realizes that much of our supposed human knowledge is neither positively true nor definitely false and often cannot be completely verified or discredited. The limits of our understanding require us to live by many probable truths. The intelligent person will try to differentiate between certainties and uncertainties and live courageously but not blindly by his convictions.

Personal Inventory

What do you now consider the most dependable sources of truth?
Summarize your present ideas as to what life means to you.

Write a brief statement covering the contributions that you hope college experience may make to your philosophy of life.

Moral values. These values have to do with problems of human conduct. One question that should be studied by everyone is whether his behavior is determined largely by outer, imposed controls or by inner controls and, if by inner controls, to what extent it is determined by fear, self-interest, desire for approval, or altruism or by ideal standards of right and wrong and good and bad. Growth from infancy to adulthood represents a gradual shift from one control to the next in about the order in which they are named above. One test of moral adulthood would be to determine in what aspects of one's life these different controls of behavior operate.

Ideal standards of right and wrong and good and bad may, of course, be either accepted from without or developed from within. If accepted unthinkingly, such standards may represent but little advance beyond childish controls, except in the ability to grasp more abstract meanings. When an individual attempts to develop these standards through the evaluation of his experiences and his interpretations of the meaning and value of life, he confronts one of the most stupendous problems that life can offer him, yet one that affords the greatest opportunity for growth.

Many thinkers have held that the welfare of society and of the individual are so inextricably interwoven that the good of one is in reality the good of the other. Cooley, whose concept of the looking-glass self was considered earlier, states that society and the individual are different aspects of the same thing. Society exists in the relationships of individuals, and these individuals are the product of society and could not exist outside it. According to this theory, no real disharmony between the welfare of society and the individual could exist, and the right or good in life for the individual would always be determined on the basis of what is socially right or good. Others have held that the greatest good for the greatest number should be the criterion for determining what is right, assuming that the highest good for some individuals must be sacrificed to the greatest good for all. Today no enlightened person could question the fact that individuals and groups inevitably affect each other for better or worse and that injustice and underprivilege are impossible in a fully democratic social order.

To what extent should the past experience of the race and prevailing conventions that have grown out of this experience determine ethical standards for the individual?   Many who have struck out beyond the charted paths have been persecuted but have become martyrs who have ultimately led humanity forward to better goals.   Others have only wrecked their own lives and retarded the progress of the group.   The individual who tries to think for himself with respect to right and wrong or good and bad and to develop his own standards is facing the most difficult problem in life, one that involves possibilities for his greatest good and happiness or for serious mistakes and unhappiness.

A group of college students were asked to formulate a list of life objectives judged so important that they should never be lost sight of during one's lifetime.   They finally agreed upon two: (1) maximum personal development and (2) maximum contribution to society.*   The person who really makes these two comprehensive objectives his own will strive for the good life for others as well as for himself, and he will act on the principle that the happiness and success of others are as important as his own.   After daily contacts with college undergraduates, Christian Gauss expressed the conviction a few years ago that students were earnestly hunting not for liberty or license but for new standards of political and social thought that would improve human living (95).

Surveys of the attitudes of college students regarding moral standards have indicated a general uniformity of moral convention throughout the student population of the country. The report of one survey stated that college freshmen "place a premium upon a clean personal life, respect for public property, and honesty in various situations" (73).   This survey did not reveal any startling differences between the moral beliefs of college seniors and freshmen.   Both were inclined to believe most of the moral propositions that were submitted to them.   The author of the study suggests that differences evidenced may be due partly to differences in age and partly to the increased responsibility for their own actions assumed by seniors.

* These objectives were developed in a class under the leadership of John W. Harbeson, principal of the Junior College, Pasadena, Calif.

PERSONAL INVENTORY

What determines your conduct? Estimate the relative influence upon your various activities of each of the following factors · outside authority (parents, college officials, laws, religious decrees); fear; self-interest; desire for approval of others; recognition of the rights and welfare of others; accepted standards of right and wrong, good and bad; personal standards of right and wrong, good and bad. List others.

Are you selecting friends, activities, and possessions on the basis of well-considered values that you wish to build into your life? Try to summarize the standards of value that enter into your choices.

In what respects do you think you could improve these standards of value? What changes would these improved standards be likely to cause in your choices?

Beauty values—aesthetics. At first thought this topic may call to mind the creative arts, such as writing, music, painting, sculpture, architecture, and the various applied and practical arts. However, beauty resides in all forms of life and modes of living and is manifested in perhaps its highest form in the human personality.

Appreciation of beauty is one of the deepest and most lasting of all life's satisfactions and one that is least subject to the varying vicissitudes of life. It is not easily lost like money or material possessions and is not dependent on them. Without it material satisfactions mean little.

In developing standards of beauty, we may use the same methods as in building a life philosophy. We may accept some that are ready-made or construct our own out of personal study, observation, and experience. Aesthetic appreciations form so vital a part of the whole emotional life that individuality would seem to require that we develop our own standards of judgment, though these should be based on an understanding of what others have adjudged beautiful. Again, college affords an opportunity seldom duplicated for the survey of aesthetic values and for laying the foundations of growing aesthetic appreciations. Like everything else worth while, these appreciations must be fostered and nourished if they are to be kept alive.

PERSONAL INVENTORY

What are your present aesthetic standards? In what areas of human expression have you developed your own standards; accepted others' standards, developed little or no appreciation?

In what respects do you think that college experiences may refine your standards of appreciation?

Ideal values—religion.   Some philosophers have held that man is essentially religious by nature and that the numerous religions in the world are expressions of this religious urge. Men in all ages have reached out beyond their material and sensual existence to find meaning and power.   Reverence toward, worship of, and supplication to an unseen power are inherent in all religions.   Some individuals are able to gain a personal sense of this power, or God; others doubt or deny its existence.   Despite variations in personal experience, religion has been one of the strongest motivating forces throughout human history and is one of the greatest transforming influences in human lives.   It has also been a source of conflict, warfare, and human suffering.   This last effect has invariably been due to the attempt to maintain or extend the acceptance of creeds or dogmas that have become established as bases of belief and conduct within particular groups.

Comparative studies of world religions have revealed many common features which might be thought of as basic religious truths because of their widespread occurrence.   The differences in creeds, dogmas, and systems of ethics that have developed around each religion can be accounted for in large part by the economic or social development of the people among whom they evolved.   This understanding of the sources of variation in creeds should eliminate intolerance in religious faith, but there is still much evidence throughout the world of bigotry and prejudice.   Such primitive manifestations illustrate the thinness of the veneer of civilization and the strength of the childish tendency to find convenient scapegoats upon which to heap blame for frustration or other unpleasant conditions.

Many individuals pass through periods of severe inner conflict because of apparent clashes between a religious faith acquired early in life and later studies or experiences.   These conflicts may be particularly acute with college students who

for the first time begin to cope with the methods and viewpoints of science or find themselves thrown into new social situations where they must face possibilities of conduct at variance with their religious teachings. Problems of dancing and card playing versus social ostracism have caused some students more nervous strain than the passing of a final examination.

The solving of these conflicts might well start with recognition of the fact that we have passed out of the period of authoritarianism in our thinking where beliefs can be forcibly imposed by an authority outside one's self. Tested truth is the keynote of our modern thinking, and this point of view throws the door wide open for the questioning, testing, and personal acceptance or rejection of ideas and beliefs without fear of eternal damnation following upon an erroneous conviction. Many scientists, it is true, would have us loathe the acceptance of an unproved truth as much as the older theologians would have us fear hell-fire as the result of an unorthodox belief, but the fear of nonconformity to authority in the matter of religious beliefs is rapidly passing out of the modern mind. Of course, convictions and beliefs established in childhood often seem to partake of the nature of self-evident truth, and it is the conflict with these attitudes and the standards of conduct associated with them that sometimes causes such profound emotional disturbance.

Increased freedom of thinking and acting carries with it increased personal responsibility for conduct and the need for clearer thinking and more firmly established inner controls of conduct than formerly. The complexity of modern life, coupled with the weakening of external controls, produces problems of adjustment that prove too severe for many to meet. Few people get very far along in adult life without encountering situations that seem unsolvable. Such circumstances are often the starting point of a search for power beyond human limitations that results in the development of religious faith and conviction.

Some modern scientists pin their faith to scientific truths as multitudes throughout the history of the world have clung to a religious faith as their guiding star. But many outstanding men in the field of science profess a faith in God and find no essential conflict between science and true religion. The con-

flicts, when they have arisen, involve creeds and specific concepts of God rather than the idea of the existence of a Divine Power or the essential elements of religion.

The apprehension has frequently been expressed that modern colleges are undermining religion and turning out atheists. Surveys tend to show that this apprehension is not well founded. In one survey of the religious beliefs of students in several Midwestern colleges, 96 per cent of the freshmen and 93 per cent of the seniors expressed belief in the existence of God. In a large Eastern university, nearly two-thirds of the students reported what might be considered current orthodox views; one-fourth only were inclined to be liberal or agnostic; only one-twelfth tended in the direction of atheism. The comparison of beliefs held by lower and upper classmen indicated a slight shift in the direction of unorthodoxy, more of the upper classmen stressing a liberal, impersonal notion of the Deity rather than a personal or an orthodox view. The authors * conclude that they have no evidence whatever that the effect of continued study in college is to destroy religious beliefs by supplanting them with mechanistic views. "The effect seems to be merely one of liberalizing the individual while he still remains upon the side of a positive belief." Comparisons of their findings with other surveys of a similar nature led the authors to conclude that students of the present generation tend to be critical not so much of the conception of the Deity as of the ethical value of formal religion and that they tend to emphasize the social value of religion as a means of service toward one's fellow men.

A committee on student personnel work of the American Council on Education has studied the religious-counseling needs of college students. Their report stresses the importance of providing opportunity for all students to face their problems of life values, to become well informed about their religious heritage, to receive help in developing a life philosophy, and to participate in social action that may bring their ideals and life values into active play in their lives. The report suggests that the study of religion and the search for spiritual values are important aspects of general education through which students may be helped to relate fields of knowledge to social and

* Katz, Daniel, and F. H. Allport, *Students' Attitudes,* The Craftsman Press, Inc.

religious ideals; also, that colleges and universities should provide opportunity through elective courses to study religious developments in human history. Such study combined with participation in student religious groups and counseling with religious leaders should result in personal growth with respect to religious values.

List any doubts or perplexities that you may have with respect to religion.

Which of your religious beliefs are derived from other people? Which have grown out of your own experience?

Summarize what you think religion means to you.

What are the opportunities on your campus for religious study, fellowship, and counseling? Are you using these opportunities for your own spiritual growth and for service to others?

Values pertaining to the understanding and appreciation of reality.

National hatreds of whole generations, and pigmy spites of the village spire;
What is it all but a trouble of ants in the gleam of a million million of suns?

This question of Tennyson's suggests the value of concepts of time and space and of cosmic and human development that afford perspective with regard to life. The concepts presented by modern science are almost beyond the power of one mind to perceive and interpret, but the effort to do so must leave one a different person from before. Concepts of the span of time through which human life and human institutions have been developing reveal the futility of many judgments and theories based on the relatively infinitesimal period of recorded history. As proof positive that human nature was unchanging a teacher cited the expressions of that nature in the recorded literature of several centuries from which she drew her materials for teaching. What about the years before human doings were recorded in literature?

The distance in light-years between our planet and the farthest known star can be conceived of only mathematically and in the imagination, but the process of trying to do so may

dust the cobwebs off some of our mental windows. Then compare the older concepts of atoms as discrete particles of matter with the modern hypotheses of substance described in terms of electrical impulses in fields of space and physical phenomena ascribed more to processes and relationships in fields of force than to the characteristics of the units. There is a striking similarity of language between these scientific descriptions of the physical world and the psychologist's descriptions of the human world where social groups emerge in the relationships among human personalities.

Scientific information is accumulating more rapidly than it can be organized, interpreted, and applied. The development and use of atomic bombs have demonstrated the urgent necessity of the control of science in the interest of human welfare if it is not to destroy human civilization. Such control depends upon our awareness of material, social, and spiritual realities and upon our ability to create a way of life in harmony with these realities and our ideals of justice and human values. For all of us this will mean unselfish effort to understand life and to act on the basis of the highest loyalties to which we can give our allegiance. One of our spiritual leaders, John Haynes Holmes, once wrote: *

It is this that keeps me going—the knowledge, vouchsafed in passing moments when we are lifted beyond and above ourselves, that we are an essential part of a creative process—that we ourselves, with God, are creators, and thus makers of some great cosmic future. What if I cannot see that future, or even imagine it! Such ignorance, frankly confessed, fades like darkness before light in the actual sense-experience of having lived to "vaster issues."

PERSONAL INVENTORY

Try to summarize the points of view or concepts that you have developed with respect to each of the five types of values suggested as bases for a life philosophy. Examine these statements to try to discover how many of your viewpoints have changed in recent months or years. Can you explain what experiences have caused the changes?

Make a list of problems for which your present life philosophy affords no adequate solution. Which of the five types of life values

* Published in *On the Meaning of Life* by Will Durant, New York, Richard R. Smith, 1932.

are related to each of these problems? Keep this list of problems where you can refer to it frequently; add new ones as you become aware of them; and search for pertinent suggestions about them in your college studies, reading, and other life experiences. Converse about them when the opportunity arises, and thus compare your views with those of others.

SUGGESTED READINGS (see Selected References, pp. 471-483): 20; 46; 62; 68; 78; 74; 75; 81; 86, 87; 158; 193; 195; 208; 245.

VOCATIONAL AND AVOCATIONAL PLANNING

What are the problems of vocational planning today?

What can we know about future occupational opportunities? Occupational research workers have studied this problem for many years. Their studies have shown the changes occurring in various types of work and the trends in the development of the total pattern of work opportunities. However, the factors that produce these changes are numerous and complicated and frequently are so unpredictable that there is always an element of uncertainty about the future.

The widespread unemployment during the depression years of the thirties led many to predict that there would never again be enough work for everyone. But the early forties witnessed a reversal of this situation with a critical shortage of both war and civilian workers. Out of the experiences of these years has come a clearer realization of the vital importance of work for every individual and of the contributions of human toil to the building of civilization. One principle underlying the planning for conversion from a war to a peacetime economy has been that of providing employment for every potential worker. Each individual can help in the achievement of this goal by planning and preparing for work realistically in the light of his potential abilities and probable occupational opportunities.

How realistic are the vocational plans of students? Surveys have indicated that there is a serious lack of realism among high-school and college students in planning their contributions to the world's work. Sparling reported that of 888 university students whom he studied, 70 per cent were endeavoring to gain entrance to three of the most overcrowded vocations in the United States and 95 per cent to the four most overcrowded vocations in metropolitan areas. These students believed that they would earn four times as much as the average worker in

the expected occupation actually earns, and they revealed little insight into the social, economic, and cultural handicaps that they might expect to encounter (210). Sisson found that only 38 per cent of the graduates of classes at one university entered the occupations for which they had indicated a preference at entrance. He concluded from numerous data that college students tend to aim too high in their vocational choices and fail to realize the value of cultural interests and hobbies that may enrich life, no matter how routine their jobs may be (204). Clark, on the other hand, argues that many more workers are needed in the professions to give people the services that they want and need and that, because of scarcity in relation to demand, professional incomes are relatively high in comparison with those in other fields (50).

Williamson and Darley report for high-school seniors "Concentration of choices in a few traditional categories—in spite of the fact that such concentration is not in agreement with known facts about corresponding abilities, interests, and opportunities." There was evidence of a decrease over a four-year period in choices for the professions and executive positions and an increase in choices for agriculture, forestry, and skilled trades (255). Such changes do not mean necessarily that students are thinking soundly about all the factors that should enter into vocational planning. Reasons for choices expressed in surveys invariably show a lack of clear thinking and usually stress an interest in or liking for the work more than personal fitness, available training, social demand, need and status, and economic returns. All these factors should be weighed and suitably balanced in sound planning.

During World War II every loyal citizen faced the following question: "What work that needs to be done can I do best?" High-school and college students, as well as their parents, participated in this necessary work. Men and women in military service also gained experience in many new types of jobs. In building a peacetime world that provides opportunities for each individual to use his unique talents we all need to follow the same realistic approach that we made in wartime even though we have more freedom of choice.

One deterrent to the achievement of this goal is the prestige hierarchy of occupations which attaches higher social status to

some kinds of work than to others. There is only one sense in which any socially useful occupation should be considered "inferior" to any other, and that is if it makes less use of a particular individual's distinctive equipment of abilities and interests than would the other occupation.

How can we plan and prepare for future work wisely in a period of rapid change? Our experience in shifting into a war regime and then back to a peacetime economy has suggested some of the answers to this question. The conversion of industry to a war-production program was hastened by the use of techniques that had been developed through the research program of the United States Employment Service during the decade of the thirties. Careful analyses of thousands of jobs and workers had been used in compiling job families, *i.e.,* groups of jobs in various industries that require similar skills and abilities. This knowledge made it possible to reassign many workers to new war jobs quickly. Similar methods have been used in the reconversion process. Jobs in the armed forces have been analyzed and compared with civilian jobs to facilitate the guidance of veterans in reentering civilian life.

Although these particular researches may not affect you directly, they have important bearings on vocational planning. They demonstrate the fact that several jobs with different titles may call for similar abilities. They also suggest how important it is for each individual to understand and develop his abilities and interests as fully as possible in order to be able to fit into available work when he is ready for it.

Technological changes are inevitable in our power civilization, but they create new jobs as well as eliminate old ones. The person who is suitably and thoroughly trained can make the necessary adjustments to changed conditions. Another reason for sound planning and training for those now in college is the need and probable demand for thoroughly trained technical and professional workers in the years ahead. The shortened training of so many persons during the war is no longer necessary, and in the years ahead the advantage will be given to the thoroughly trained individual.

A well-coordinated work-and-training program, such as is provided in several colleges and universities, affords opportunities for students to try out their abilities while securing their

academic training. Even students working merely to earn college expenses have placed first-rank value on the experience as a means of improving ability to get along with people.*

What are the major considerations in vocational planning?

Any thoughtful young person viewing the world scene today must inevitably ask himself three questions:

1. What work needs to be done to maintain and advance civilization?

2. For what kinds of work can I become fitted, and which should I most enjoy?

3. How can I best prepare myself for work and secure the opportunity to make my contributions to the world's work and to live a satisfying life?

It is likely that until now you have given more attention to the last part of the second question than to the others. But if your first years in college deepen your understanding about the world, you will consider all three questions. We shall survey briefly some of the steps involved in attacking each of these problems. We shall start with the second question, because it is more closely related than the first to our previous study.

What should you know about your vocational potentialities before making vocational plans?

The problem here is not merely that of discovering one or more unusually strong aptitudes but of trying to see the whole pattern of your developing personality. This pattern will include physique, health, aptitudes, interests, life values and purposes, skills and other achievements, economic status, and all the personal qualities that affect human relationships and life adjustments. Chapters XIX and XX, which deal with methods of self-appraisal, should be reviewed together with any notebook materials that you developed during that study. You will probably be able to add new insights about yourself and may need to revise some of your previous judgments. Self-understanding is a lifelong process.

As you review and revise your personal data to compare with occupational requirements, you should secure all possible assist-

* Dunham, F. S, "The Wage-earning Experiences of Undergraduate Students in Education," *School and Society,* 61·399-400, 1945

ance from your counselor. He will be able to help you interpret your information and may have additional data from your cumulative records. But you should not expect him to make decisions for you.

A guidance worker once wrote that a guidance bureau should be like a type-distributing machine which will take a hopperful of type of all the letters of the alphabet and place each in its particular niche. Such a perfect mechanistic process makes a strong appeal to the imagination because it would be so delightfully definite and satisfying if it could be done. The cold. facts resulting from experience and scientific research, however, show that guidance must consist rather of helping individuals determine for themselves which of several possible niches may be wisest for them to try to fill. In fact, the problem for the individual sometimes involves helping to create a niche as well as to prepare himself for it.

Numerous batteries of tests have proved helpful in selecting workers for specific jobs. Most of the ability patterns for which these measurements have been developed are required in the simpler industrial processes or clerical jobs, and their testing would not be especially helpful to most college students. The measurement of aptitudes for vocational planning is a different problem from that of testing for immediate placement on a specific job. The use of aptitude tests in selecting trainees for some professional fields has already been mentioned, also tests for some of the broad fields of aptitude such as mechanical, musical, artistic, or clerical.* The only absolute test of one's aptitudes for a vocation is the test of life itself—achievement on the job. In most types of occupations requiring training this method of trial would limit a person to only a very few tryouts during his lifetime and has resulted in disappointment and unwarranted loss of energy for many. Although we have no exact methods of measuring human potentialities as we have for measuring possible stress and strain for wood and cement, it behooves us to try to do as much to prevent disaster in our human lives as we do in building material edifices. The attempt should be made to evaluate the relative strength of all significant characteristics and to discover for what types of work the particular pattern seems best suited.

* See pp 285-292

The Minnesota Occupational Rating Scales in the Appendix contain five convenient categories within which some of your data could be grouped and thus simplify the problem of organization. These are termed "abstract intelligence," "mechanical ability," "social intelligence," "artistic ability," and "musical talent."

Basic trends of personality should be suited to the type of life imposed by vocational activity. We have considered some of these implications in earlier chapters.* More specific traits of character and personality that affect one's relationships with others are also fundamental to success. One study of the causes of discharge of workers in industry showed that of 4,375 cases only 34.2 per cent were dismissed for lack of skill or technical knowledge, whereas 62.4 per cent were dismissed for lack of social adjustability or undesirable habits or attitudes, and 3.4 per cent for other miscellaneous reasons (33). Since all these personal qualities are an integral part of the total personality, one is in reality preparing for success or failure in work throughout one's lifetime.

The stress here on aptitudes and personal qualities should not lead to underestimation of the importance of real interest in a chosen vocation. G. Stanley Hall once wrote: "I think that the greatest good fortune that can befall a man is to be able to make as his vocation what he loves to do during his vacation. . . . If there is something that you prefer to do to anything else, that way lies your calling." † The truth of this statement needs only to be tempered by the caution that suitable abilities must implement interests and that we must attempt to discover our interest trends that will grow through the years; not fade out after the first glow of new experience.

For convenient grouping of interest trends one might use the four factors identified by Thurstone as "interest in science," in "business," in "language," and in "people."

The interest inventories described in Chap. XIX provide other groupings that will be helpful if scores are available.

What you want from life in general will determine to a large degree the satisfactions that you gain from your vocation.

* See Chaps. XIX and XX.
† Reprinted from *Educational Problems*, by permission of D Appleton-Century Company, Inc, New York

And what you want will depend upon your philosophy of life and your standards of value. Experience teaches that what we want very much at one time may seem valueless later on. One reason for this may be that we are constantly envisaging new goals that rob those near at hand or already attained of their earlier glamour. A recognition of this human tendency will help to prevent one from concentrating too narrowly on one specific ambition. There is, of course, the opposite danger of scattering one's aims too much and thus failing to achieve any of them satisfactorily.

Ask yourself the following questions:

What value do I attach to each of the following goals— wealth, prestige, self-development, service?

What other values do I wish to realize through my vocation? Number the complete list of values in order of their importance to you now. Try to visualize the specific satisfactions that may come from attaining each of these goals.

In studying particular occupations keep these questions in mind: Will this occupation afford me opportunities to work toward these goals? Will I probably be able to maintain this evaluation of life goals in the work and the manner of living it will tend to impose?

PERSONAL INVENTORY

Bring together in your notebook all the information about self that you have accumulated thus far, and study it to ascertain what would seem to be your chief assets and liabilities for vocational endeavor.

Describe briefly the patterns of abilities that seem most important vocationally.

Are your strongest interests related to activities in which one or more of these groups of abilities could be used?

Keep your notes at hand to use in the study of the next problem.

What should we know about the world's work and about contemplated occupations?

A person who has reached college status will have accumulated some information about the work of the world. But change has become accelerated in recent generations by scientific research, inventions, and technological trends. Contin-

uous study is needed to keep abreast of significant occupational trends and to try to anticipate their future. The difficulties encountered in attempted predictions are illustrated by the following list of factors affecting occupational trends given by Anderson and Davidson in their study of census data: public policy, technology, occupational barriers, acts of God, depletion of materials, labor disputes, alterations in working conditions, business cycles, age and sex composition of the labor force, access to capital, tastes and styles.*

Obviously, the forces of change are not easy to understand. Undergraduate college study in the various subject areas should yield many understandings that will contribute to sound vocational planning. Trends such as are shown in the census data for certain occupational groups in Table F † should be studied for specific fields in the light of all available information about conditions in the field generally and in the particular region where placement is desired.

Since there are hundreds of occupations in the world and since most of them are in a constant state of flux, vocational plans are subject to change. Specific plans that exclude alternatives should not be made too soon.

The outlines, suggestions, and questions here are for the purpose of directing the study of any occupation. The necessary information must be secured from many sources.

Needed information about contemplated occupations.

Nature of the work—what is actually done in the occupation. This should include a picture of a typical day's work and an understanding of the types of activities involved. There are many specialties within practically all of the major professions and technical fields, so that a general description of work in law, medicine, or teaching, for example, will not be especially helpful to an individual who is trying to match his qualifications with fields of work.

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* Anderson, Dewey, and Percy E. Davidson, *Occupational Trends in the United States,* Stanford University, Calif., Stanford University Press, 1940, pp. 51-63. The materials in this volume should be helpful to both counselors and students in the investigation of trends in any of the major areas of work.

† Appendix, pp 506-513

Advantages and disadvantages.

Possibilities for continued interest, growth, and self-development.
Physical or mental strain involved.
Conditions tending to hamper or prevent growth and self-development.
Hazards involved in the work.

Qualifications and training needed.

General education required or desirable.
Technical or professional training required.
Legal or other specific requirements.
Time required for preparation.
Probable cost of preparation.
Places where training can be secured.
Personal qualifications.

Health and physical requirements.
Special skills and abilities required.
Experience necessary.
Necessary and desirable personal qualities.

Possibilities for training on the job.
Possible lines of promotion, or other occupations to which this one may lead.

Income.

Initial salary or wages and how paid?
Probable and possible income after getting established in the work.

Probabilities as to length of active service in this work.
Hours of work and regularity of demand.
Relation between supply and demand in this field.

At present.
Future probabilities.

Possibilities for radical changes in the work, due to inventions, or anticipated technological, economic, or social changes.
Methods of entering the occupation and entrance age.

Relations between workers in the occupation—organizations, etc.

Effect on social status.

Purpose and function of the work in our social order.

Sources of occupational information.

Occupational research studies. Fairly comprehensive literature is available on most of the occupations of a professional or technical nature. Changes occur so rapidly in many lines of work that recent pamphlets or monographs are often more satisfactory than books which may be out of date soon after they are published. Some of the criteria to use in judging the dependability of occupational information materials are * date of publication and date of gathering the material; occupations, titles, training, and experience of persons who gathered and prepared the material; organization or groups sponsoring the study; the publisher; sources of information, such as library research, visits to establishments, interviews with workers, questionnaires, validation of findings by recognized authorities, and the acknowledgment of sources of materials; evidence of well-balanced and unprejudiced presentation of the total picture of an occupation in its social and economic setting. Bibliographies are listed at the end of this chapter.

Current periodicals and professional and technological journals. Evidences in the census reports of the numbers of changes in types of work are certain to be somewhat appalling to the person who is considering entering a field directly affected by the rapid changes in industrial processes. Old types of work are disappearing and new types appearing so rapidly that anyone who is interested in applied science or technology should attempt to keep his information up to date. He should read the standard professional and technological journals in his field. For the person not yet oriented in his special field of study, newspapers, magazines, and popular scientific journals will help to keep him in touch with many significant de-

* Adapted from "Distinguishing Marks of a Good Occupational Monograph," Publishers' Committee, Occupational Research Section, National Vocational Guidance Association, reprinted from *Occupations* for November, 1939.

velopments, if he forms the habit of looking for pertinent information. A scrapbook or file of clippings may have both occupational and general cultural value.

Biographies and autobiographies. Interesting and valuable information about the human aspects of occupations can be obtained through studying 'the lives of successful people. Their ambitions, their struggles to overcome obstacles, and their methods of adjusting to changing conditions can give one insight not obtained through the reading of research materials. One should recognize, however, that most biographies are written about people who have attained unusual success and also that these people have probably worked under different conditions from those confronting individuals who may try to follow in their footsteps. With these cautions in mind there is no more inspiring source of study for one who is just starting to blaze his own life trails.

Conferences and friendly visits with people now engaged in the occupation. The cautions suggested above need to be heeded here with the additional one of guarding against any undue influence of an admired or enthusiastic personality. A successful person often thinks that his line of work is the best in the world and may not be sufficiently chary with his advice. One can, of course, choose both successful and mediocre representatives of an occupation and thus see different sides of the picture. Have definite questions for the interview planned in advance. In any educational institution there are instructors who can give much information based on past experiences and study. Seek out those in your own institution who can help you.

Observations of the work through visits and firsthand experience. This would be one of the best ways of studying an occupation if our complicated economic organization did not frequently render it impracticable. Few texts on vocational guidance fail to compare conditions in Benjamin Franklin's time, when his father led him about the streets of Boston to learn about the different types of work, with conditions in our time which often preclude any real understanding through observation. A trip through an industrial plant or an hour's visit in a law office or a courtroom may show no more than would a similar visit to a state legislature about how work is

actually done. If one knows how to get the desired facts, however, this is one of the best sources of information. Actual tryout experiences in summer or part-time jobs often give valuable insight.

Lectures and vocational conferences. Many colleges invite outstanding people in different occupations to speak to the students. Listening to many speakers representing varied fields of work gives an interesting opportunity to compare personalities and attitudes and to reach tentative judgments about what a particular occupation may do to one. That, after all, is an important consideration.

Radio talks and motion pictures. Consumer judgment must be especially keen and critical with these sources of information in order to distinguish between the sound and unsound, the fanciful and the realistic. Some commercialized guidance rackets are advertised through radio talks. However, some professional organizations and some individuals offer enlightenment about occupational problems through radio programs. Special films for vocational guidance are also being developed, and these are more likely to portray accurate occupational conditions than most recreational movies, though with critical selective judgment one can acquire a good deal of reliable and helpful information from the latter.

Choosing occupations for study. The extent of your occupational information should be the first deciding factor here. If you have comprehensive information about occupational opportunities gained from previous study, you may be ready to concentrate on a few. If you lack this general information, it would be helpful to skim through some of the surveys of occupations listed in the chapter references, keeping in mind the picture of your interests and possible aptitudes. These directions are for those, not so few in number, who are groping uncertainly and have no particular lodestar beckoning them in a specific direction. For this group the words of J. C. W. Reith (185) will be consoling: "I believe few men are born for anything definite, and when they are they seldom strike it. When a man is born for a career and strikes it, we get a genius." Hull's conclusion that some people are twice as variable as others in the range of their abilities may possibly

have a bearing on the different degrees of difficulty with which individuals reach vocational decisions.

One approach to a survey of occupations is through a general classification. The groupings used in the United States census reports include· professional and semiprofessional workers; farmers and farm managers; proprietors, managers, and officials, except farm; clerical, sales, and kindred workers; craftsmen, foremen, and kindred workers; operatives and kindred workers; domestic-service workers; protective-service workers; service workers, except domestic and protective; farm laborers and foremen; laborers, except farm and mine. Many specific workers under these headings are listed in Table F, Appendix, page 506.

Training levels furnished another basis for classification. The occupational rating scales,* included in the Appendix, pages 488-499, illustrate this type. The six categories used here are high professional and executive occupations, with training *equivalent* to at least college graduation; lower professional and large business occupations, with training *equivalent* to two or three years of college; technical, clerical, supervisory occupations, with training *equivalent* to high-school graduation; skilled tradesmen and low-grade clerical workers, with the *equivalent* of some training beyond the eighth grade; semiskilled occupations, with training *equivalent* to seventh or eighth grade; unskilled occupations, with no formal training necessary. The ratings of occupations in this scale according to their demands on five types of ability (abstract intelligence, mechanical ability, social intelligence, artistic ability, and musical talent), may prove helpful for a comparison of personal qualifications with occupational requirements.

Research has been directed toward the development of a functional classification of occupations that would group together those which call for similar patterns of abilities. Some such groupings have been made for relatively simple and specific types of work, but the more complicated patterns for professional and technical tasks do not so readily lend themselves

* Prepared by Eleanor S. Brussell, Harold Cisney, and Minnesota Mechanical Abilities Research Staff under the direction of Donald G Paterson; 1936 revision by D. G. Paterson, Gwendolen Schneidler, and J. Spencer Carlson

to this functional classification on a statistical basis. It is helpful to make one's own rough groupings, however.

Most types of work involve a combination of many different forms of activity, and the particular combination is the important thing to discover. The fact that in the legal profession alone there are about fifty different types of special legal workers suggests the complexity of the task of surveying the thousands of specific types of work in the world today.

How shall you gauge your suitability for an occupation?

Which of the following factors have influenced your tentative choice of an occupation or have helped to determine your present interests? You may wish to add others.

Your father's (or mother's) occupation.

That of older brothers and sisters, relatives, or admired friends.

Parents' plans for you.

Knowledge of the work gained through observation, actual experience, reading, travel, or conversation.

Trends and available opportunities in the field.

Probable income.

Manner of living possible in this type of work or social prestige associated with it.

Personal fitness for the work evidenced in native capacity or aptitudes, developed abilities or skills; qualities of personality and character; trends of interest.

Interests or achievement in school subjects.

Suggestions or influence of teachers.

Recreational interests or skills.

Hobbies or avocational pursuits.

Glamour surrounding your concept of the work.

Admiration for a particular person engaged in this type of work.

Short cuts to success as represented by current advertisements.

Location of work.

Desire for immediate financial returns.

Future prospects for income, promotion, or achievement.

Appropriateness or apparent limits of your training.

Harmony with personal ideals of service.

Probabilities of personal growth and happiness.

After deciding which of these factors have influenced you, consider

Which of these factors *should* be important influences in choosing a life work?

Which are unimportant or actually undesirable?

Which of the important factors are probably unalterable?

What are desirable attitudes to assume toward these unalterable factors? *

What criteria should you set up for judging how far one should go in attempting to overcome adverse environmental conditions or personal handicaps?

Consider here (1) the successful achievements of individuals who have conquered limitations and handicaps and (2) the possibility of diminishing returns with prolonged effort after a certain limit. Sufficient attention should be given to a handicap to overcome it in so far as possible. Beyond that the desirable attitude in vocational planning is to consider how assets can best be used. Actually this is the desirable approach for everyone, and each person has his particular liabilities. Individuals with severe handicaps demonstrated the valuable services that they could render during the war labor stringency and helped to expand opportunities for others with handicaps. The interest in this problem as it affects injured veterans has increased the emphasis upon the study of the physical demands of jobs. Lists of jobs suitable for individuals with all types of handicaps are now available for personnel and placement workers.†

How well do your interests harmonize with the contemplated work? List in three groups specific interests related to this work.

Those which have a fairly long history of development throughout your life.

Those which seem quite recent and perhaps due in some instances to accidental factors.

* See p 262.

† The person facing this problem should be enlightened and inspired by *New Lives for the Disabled* by Edna Yost and Lillian Gilbreth (261).

> Those which you have verified by objective comparison with those of people successfully engaged in this work.

List interests significant for this type of work that you apparently lack.

Compare the two lists, and consider possibilities for your developing the lacking interests.

Do you have the requisite qualifications? Will this work utilize your strongest assets?

Intelligence: Compare your general level of intelligence with that called for in the contemplated work or in preparation for it.

If your degree of intelligence appears to be much higher than the probable average for this type of work, there are two important considerations: (1) a higher level of work in the same general field or the change to another field; or (2) if interest in this work is very strong, the expression of other life interests through well-developed plans to supplement occupational activity. Avocations will be dealt with later from this point of view.

If your degree of intelligence appears to be much lower than the probable average for this type of work, significant considerations would be (1) a lower level of work in the same general field or the shift of interest to another field or (2) the possibilities of compensating for this lack by special abilities or by personal qualities, such as industry and persistence.

Special aptitudes: Make a list of special aptitudes that you think you possess, grouped in some such manner as follows:

> Those which have been demonstrated through the development of skills or through specific achievements in any field of activity.
> Those evidenced in fairly high degree in objective tests.
> Those which others who know you think that you possess.

There will be much overlapping in such a list, but it is worth while to group them thus in order to try to distinguish between fact and fancy. Next compare these lists of traits with your interests to see how nearly they appear to harmonize. Such a comparison may help you to decide which interests may be

most closely related to natural abilities and not merely the outgrowth of environmental influences.

The next and most important comparison should be between your own qualifications and those called for in the occupation. At this step it is important to realize that the degree of strength of each ability and the particular combination are the significant considerations. Few occupations call for only one aptitude.

List those abilities required or desirable for the occupation which you seem to possess in a high degree.

Make a separate list of those which are weak or missing in your own list, and consider (1) which ones you might develop with proper training and (2) the extent of your handicaps in this work without them.

Also list your assets that would not be utilized in this type of work; and if there are many, or even one very strong one, question the advisability of considering other occupations.

Do you have or can you develop the desired qualities of personality and character? Four groups will be especially helpful here to check against occupational requirements.

1. Your personal qualities that are necessary or desirable for satisfactory achievement in this particular type of work.
2. Those likely to promote success in any line of work.
3. Personality trends or traits that may be liabilities rather than assets in this particular type of work.
4. Those which might tend to hamper success in any line of work.

The following questions are significant here: In what degree do I possess each of the requisite personality qualifications now? To what degree and how can I develop them further? What are the chances of overcoming undesirable characteristics?

Here we face the difficult question of how basic or innate are such fundamental personality trends as introversion or extroversion, ascendancy or submission, or such temperamental qualities as irritability or placidity. Observation, literature, and history give plenty of illustrations of fairly radical changes, but here, again, we need to consider the law of diminishing returns for our efforts and decide if (except for tenden-

cies undesirable from a health or social point of view) we should not emphasize fitting our vocations to ourselves rather than ourselves to our vocations. Specific habits are, of course, much easier to change than basic personality trends.

Can I be natural or myself in the best sense of the word in this occupation? Can I work toward the development of the self that I wish to become?

Is this vocation in harmony with your life purposes and values? Which of the various life purposes and values listed earlier, such as wealth, prestige, self-development, and service, are you likely to realize to any degree through this vocation?

Shall you be able to stress them in the same relative order in this vocation as you do at present in your life philosophy and standards of value?

Will it be necessary for you to seek many of them entirely outside your work?

List under each value specific ways in which you probably can or cannot work toward it in this particular occupation.

What position should one's vocation occupy, ideally, in one's whole life plan?

What are the probabilities that any vocational choice made at this time will remain permanent? There are two major aspects of this question: (1) How permanent are vocational interests likely to be after entrance into a field of work? and (2) how stable is the chosen occupation?

Studies show that changes in expressed vocational interests during childhood and adolescence are very likely to occur. We have noted that interests do not appear to change so rapidly after twenty-five years of age. We have no really comparable data yet for these two periods and so can only surmise as to possible differences. Strong has found in his study of changes of interest with age that changes in interest from decade to decade after twenty-five are not great and that the differences in interest between men at twenty-five and at fifty-five years of age are not usually so great as interests found among individuals in different occupations at any particular age. The study shows little change after fifty-five. Strong concluded that, in general, the things that we like most at twenty-five years of age are liked better and better with increasing age and the things that we like least at twenty-five are liked less and

less (220). Studies have shown also that interests tend to change less radically as education or training increases.

A ten-year review of research on vocational interests and job orientation since 1931 contains the conclusion that the best interest inventories are useful in the prediction of vocational choice and satisfaction but that they are much less useful in predicting vocational success, chiefly, perhaps, because of the inadequacy of available criteria of success (43). If scores on interest inventories are supplemented by biographical information on interests at different age levels, as suggested in Chap. XX,* there is greater likelihood that the more stable interest trends will be identified.

The developmental nature of the human personality strongly suggests that interests will not remain static but will grow and develop. Whether or not they remain in harmony with the activities of a particular occupation will depend upon the whole course of development in an individual's life.

Our information regarding occupational changes made by individuals is quite limited. A study by Davidson and Anderson (63) of occupational mobility in one community in California showed that the sample group had had from one to eleven occupations followed for at least eight consecutive months and that the mean number was 3.6. Twenty per cent had had only one job, 50 per cent had had two to four, 30 per cent had had five or more, and 6 per cent eight or more. The typical worker had begun at odd jobs and had had two and one-third such jobs. The sample of the youthful generation showed that a measure of continuity ran throughout their careers from the first short-time jobs to their present regular employment. The writers point out that "some way must be found for preparing youth to enter a working world in which he is almost sure to shift about from occupation to occupation or for qualifying him so that he can avoid making shifts which are personally and socially undesirable" (63, p. 179).

Job satisfaction is affected by the life attitudes and adjustments of workers and their suitability for their work as well as conditions and human relationships in their jobs (115). This fact emphasizes the importance not only of intelligent voca-

* See pp 310-311.

tional planning but of efforts directed toward the development of a livable personality.

Census reports in recent decades have shown amazing changes in the listing of specific jobs, due largely to the rapidity of change in technical processes of manufacturing and in our whole economic system of production, transportation, and exchange. One analysis of twenty-two different occupations in 1930 and again in 1935 indicated that many of these changes affected only detailed methods and that major activities had remained relatively unchanged (138). One general trend since 1870 shown in the census reports has been from manual to service occupations. There seems also to have been a general upward trend of the total employed population as arranged on a vertical classification from unskilled to professional levels, though 41 per cent of all changes in occupations revealed in Davidson's and Anderson's study involved no change in level (63).

The census data in Table F in the Appendix * shows changes in numbers of employed persons in selected occupations from 1910 to 1940 and, for 1940, the number of employed men and women and the percentage of experienced workers unemployed in each occupation. Experts in labor statistics predict that after the readjustment from war to peace has been made, the general *trends* of change in the labor force shown in the census reports will doubtless continue. Intelligent planning should include careful study of these trends in the field that one hopes to enter. Changes, both in the work and in one's self, should be expected, but continuous adjustment to these changes depends in part on the anticipation of their direction.

How much should present or probable future occupational opportunities or demands strongly influence one's vocational planning? This is a question upon which general advice cannot be given. If an individual plans to enter an overcrowded or receding field, he should recognize that his decision may involve much uncertainty as to the future. Some pertinent considerations are suggested to stimulate thinking:

Impending radical changes in industrial processes or in other occupational fields deserve careful study before one embarks on a career totally out of harmony with the apparent trend of change.

Highly specialized or very strong abilities may often outweigh overcrowding in a field, as the most proficient individuals, other factors being equal, have the best chance to succeed.

The person with a wide range of abilities but with no special outstanding aptitude more often needs to stress the problem of supply and demand than the person with a very narrow spread of aptitudes, one or more of which may be unusually strong.

There are many exceptions and corollaries to all these statements.

To what extent should the question of income affect vocational choice? This is a highly complicated problem upon which we have inadequate information. Income in relation to cost of living plays a heavy part in determining the possible standard of living and, therefore, is vital to the way of life and the personalities of a family group. The study of possible and probable incomes in any type of work should include consideration of annual and total life earnings and of the range of income among such workers from low to high as well as the median or average income. Surveys of income in different occupations are included among the chapter references (10, 50, 100). These materials should be supplemented by data from succeeding annual studies to keep abreast of inevitable changes (242).

Many college students face at some time the immediate necessity to earn money while in college or to drop out and take a full-time job. The wise choice between these two alternatives depends upon such factors as health, physical vitality, academic ability, and the extent of financial responsibilities and obligations. A temporary break in college study is not necessarily unfortunate, especially if the work is in line with future vocational ambitions. A large majority of employers who were surveyed indicated that "other things being equal" they would give preference in selecting college graduates to those who had earned all or part of their way through college.* The cooperative work-training programs of some colleges include

* Endicott, Frank S., "What Qualities Do Employers Seek?" *Occupations,* 23.205-207, January, 1945.

planned alternation of work and study or a combination of the two as a means of providing realistic vocational preparation.

Income is only one factor, though an important one, in weighing vocational possibilities. Several studies of the interests and attitudes of men established in their work for a number of years have been made. They showed that the men who went into work with the predominant aim of earning money had a much stronger desire to change their occupations than those whose interests in the work were determining factors in their choice of occupations. Opportunities for advancement, security, congenial colleagues, and work in line with abilities are among the sources of job satisfaction reported by many workers.*

What are the major considerations with respect to preparation for a vocation? These problems have been dealt with throughout this volume. We shall merely review a few fundamental considerations here:

Resources of health, ability, and finances should be examined and weighed before a decision is made to begin a long period of training for a particular occupation.

The relative values of general college training and specific vocational training should be carefully studied in the light of personal development, vocational competence, and all the major life values. Preparation for living a full and satisfying life will include much educational experience beyond that required for vocational competence, though the two are closely interrelated. Also, a broad cultural foundation is essential for real competence and adaptability in any field of work requiring professional or technical preparation. The desirability of preparation suitable for entrance into several related types of work has been emphasized by the uncertainties of occupational life. It is likely that increased competition in the labor market in the years just ahead will give a heavy advantage to the thoroughly trained and adaptable worker.

Shifts in vocational interests during college years frequently cause a student to face the question of how much one should allow past training to influence vocational choice. Ideally, of

* Hoppock, Robert, and Thomas J Hand, "Job Satisfaction Researches of 1942-1943," *Occupations,* 23·412-415, April, 1945.

course, one should plan sufficiently far ahead in both high school and college to prevent such an eventuality. Studies of the attitudes of students toward future vocations conducted at several universities have shown that many students take no interest in the matter before their senior year when they face the necessity of earning a living soon. Then, of course, they may find their training wholly unsuited to either vocational interests or opportunities. This situation would seem quite inexcusable and stupid today when practically all high schools and colleges are providing, at the very least, stimulation to thinking and, at the best, well-organized guidance services. Experience and new interests are sufficiently unpredictable, however, for even carefully laid plans to go awry. In such cases it is surely better to spend a few extra years in training for the new work than to endure a whole lifetime of dissatisfaction. A sufficiently broad foundation in early college years in all the fundamental fields of human interest will usually prevent such inharmonies and allow for much occupational shifting in related fields.

What are the major considerations in entering work? This question may seem somewhat remote to most college freshmen, but the answers depend in large measure upon thoughtful preparation over a period of years. A few of the considerations are outlined here as a challenge to that preparation.

What one is as a total personality will profoundly affect success in securing entrance into desired work, in adjusting happily and efficiently, and in realizing ambitions for advancement. This is one of the reasons for the emphasis throughout this volume upon self-understanding and wholesome self-development.

A sense of success in any activity depends in part upon the relationship between aspirations and attainments. Intelligent planning based on realistic understanding of self and the outer world is the foundation for a successful and satisfying vocational life.

An employer will expect and demand competent services which you should be ready to give. The world will not be waiting expectantly to give you a job merely to satisfy your personal aspirations. Rather, you will need to demonstrate that you have a service to give that employers and society need.

You should prepare yourself to market your services with efficiency, dignity, and self-respect. This salesmanship depends upon many abilities, among which are understanding of other people and how to get along well with them; respect and consideration for others; understanding of self, including your assets and liabilities, ability to capitalize your assets, and wisdom in dealing with your limitations; understanding of social and economic forces and trends; unselfish desire to contribute to the world's work; and a practical efficiency in utilizing all available resources in locating and securing desired work.

Any applicant for work should acquaint himself with all available agencies for placement and other effective means of locating prospective employers. Experiences in securing part-time jobs sometimes lead to full-time employment. Techniques of applying for work require study and practice. Letters of application should be models in form, accuracy, neatness, and content and should reveal the personality and the abilities of the applicant. Investigations of written applications have revealed woeful lack in these respects. Important considerations for personal applications are appropriateness of dress and appearance, the etiquette and courtesies of business conferences, poise and ease in conversation, and the judicious balance of self-confidence in the ability to render service and recognition of the need and possibilities for growth. A personnel manager, who interviews many applicants, has stated that too many young people were asking for jobs and too few were asking for the opportunity to give a service and that the second group secured the jobs.

Some of the chapter references deal with the problems raised here (4, 30, 152), but the alert student will also acquire much information and develop many of the needed skills in wide contacts both on and off the college campus.

What are the requirements for successful vocational adjustment and advancement? A personnel counselor with much experience in industry has given the following answers to this question: *

Probably the most important attitude for the youth entering the world of work is "tough-mindedness." In college his

* Dr. Louise Snyder Johnson, formerly assistant to the Manager of Industrial Relations, Bell Aircraft Corporation, Marietta, Ga.

interests and welfare have been major considerations. In spite of the growing importance of personnel work in business and industry, the desires of the individual must be secondary to the demands of the particular concern. Thus, the individual who would succeed must not expect special considerations. Instead, he must play the game according to the rules.

And what are some of these rules which apply to most companies? First, *respect policies and traditions.* These can be discovered from handbooks, house organs, and remarks of company officials.

Second, *always go through the immediate superior with any requests or suggestions.* Too many novices overlook this important *must* and go to a friend higher up. Usually this procedure misfires and catalogues him as a troublemaker.

Third, *"button your lips" when you feel the urge to say anything detrimental about the concern or one of the personnel.* There are always problems, and the wise employee keeps his energies harnessed with constructive rather than destructive attitudes. Overlooking this important rule can stamp a worker as disloyal or bring him other uncomplimentary labels.

Fourth, *when you apply for a job, you need to interpret yourself to the interviewer. Use discrimination in what you accept.* Realize that the interviewer may be biased on the point of finding employees for certain niches. Do not be fooled by the notion that it will be easy to transfer to another department if you do not like the initial job. Try to secure the most suitable niche for yourself at first, though it may be on a lower level than you desire. It is your battle from then on. There will be ups and downs, and be prepared to take them in stride.

Fifth, *you will be continually rated by your associates and supervisors.* Written evaluations will be sent in to personnel frequently by your next in command. An example of a rating scale used in industries is reproduced on pages 330-331. You may have access to others through your college placement bureau or through contacts with employers.

Different jobs require varied types of abilities and personality qualifications. However, there are certain traits that business and industry welcome on all jobs. Among these are loyalty to company traditions and personnel, willingness to learn, adaptability, sense of fair play, thoroughness, accuracy,

effective application to work, good judgment, resourcefulness, and cooperativeness. In contrast to these, some negative accents are losing temper easily, procrastinating, tactlessness, overtalkativeness, giving inaccurate information, using alibis, letting personal feelings influence judgment, and ease of discouragement.

Social adjustment in business or industry requires the application of principles of job ethics and rules of job etiquette. Every worker should acquaint himself with these points of etiquette and learn to apply them in specific situations. The job-etiquette inventory on pages 501-505 will help you to study this problem.

Summary. When you have completed the activities suggested in the previous pages, you will find it helpful to review your listings and notes carefully and then write a critical estimate of your apparent degree of fitness for each of the occupations that you have considered. Include in these estimates not only summaries of ways in which the requirements and your' qualifications seem to match but also your limitations and handicaps for the work and the shortcomings of each occupation for meeting your needs and interests.

If you are predominantly interested in only one occupation but make a thorough study of the sort outlined here with verification of the desirability of your original inclination, the effort will have been worth while if it shows up some of your basic interest trends or aptitudes that may not be utilized in your vocation. Such interests or aptitudes may well serve as a nucleus for planning other aspects of your life which may prove the source of much happiness.

What are the problems and values of avocational planning?

Only a few researches in this area yield helpful information for individual guidance. Super, who has made a pioneer investigation with respect to avocational interests and has reviewed related literature, concludes that avocational, like vocational, planning is an individual problem and one about which few dependable generalizations can be made as yet. Using the Strong Interest Blank, Super derived fairly satisfactory scoring keys for the avocations of model engineer and musician and one slightly less satisfactory for photographer. The re-

turns from stamp collectors did not yield a satisfactory scoring key. The analysis of the vocations and avocations of the subjects used in Super's investigation indicated that some avocations supplement a vocation whereas others balance it. Illustrations of supplementing avocations could be hiking for a postman or building models by an engineer. Balancing avocations might include active sports for a sedentary clerical worker or reading and music for an individual engaged in active, outdoor work. The question of whether a supplementing or balancing avocation is more desirable or if both might be appropriate doubtless involves the total personality and life pattern of an individual.

Super found that men in vocations with interest patterns similar to those of their avocations made higher interest scores in their avocations than did those in unrelated vocations. He suggests that the unrelated avocations may sometimes represent weaker interest patterns than those which emerge in vocational activity. He found that music as an avocation usually antedated the vocation but that the opposite tendency was shown with photography. Model engineering as a supplementing avocation appeared to grow out of the engineering vocation. Adolescent avocations appeared to have value in vocational diagnosis and potential value in vocational orientation (222).

Two prevailing trends in our present civilization would seem to emphasize the importance of avocations in any well-balanced life. One of these is the specialization that characterizes many types of work. Man is not by nature suited to this specialization. Both routine and variety of experience are needed for satisfying adjustment in life. The fairly wide range of interests and possible aptitudes sure to be revealed by any thorough personal inventory is evidence of the need for variety in one's experiences. Adjustment in our industrialized civilization, where most occupations are rather narrowly specialized and cannot utilize the normal range of interests and aptitudes, involves finding activity outside one's occupation for a well-rounded development of personality.

Reduction in the amount of working time is a second trend that affects life planning. Studies by engineers and economists of problems of production and distribution in our mechanized

social order have resulted in the calculation that with proper management it would be possible to reduce work to 4 hours a day, 5 days a week, 30 or 40 weeks a year for a working lifetime of thirty-five years. Even though these specific figures are open to question, it is apparent that the effective use of leisure time will be increasingly a problem for the large majority of people. Leisure time may provide opportunity for some of the most satisfying experiences in life. Progress in civilization is in a large degree based upon the use of leisure time, not for mere diversion but for creative activity.

Another reason for avocations is the need for recreation through a change in the type of activity. One does not need to suspend all activity to rest, unless perhaps when very ill. Real rest and recreation come through the release and expression of other aspects of the personality than those utilized in work. Much-used body and nerve cells thus have an opportunity to rebuild themselves and create new energy. One fundamental characteristic of an avocational pursuit is that it should be highly enjoyable in itself, and one direct effect of real enjoyment is the revitalizing of both body and mind.

What factors should be considered in avocational planning? In planning avocational pursuits it is desirable to start with an inventory of possibilities as suggested for vocational planning. In fact, all the considerations for vocational planning except income, promotion, and success apply equally well to avocational planning.

As a start list all the avocational possibilities that you can think of under such headings as social, aesthetic, scientific, manual, sports.

As a second step it will prove interesting to investigate the avocational pursuits of several people successfully adjusted in their lifework, with a view to securing new suggestions of possibilities and to comparing their avocations critically with their vocations.

A logical third step is to list your interests and aptitudes not cared for in your best vocational choice and note appropriate suggestions for avocational activities that would, as it were, take up the slack in your personality and afford variety of experience—both diverting and creative in nature.

Avocations like vocations should grow naturally out of past and present experiences; so it is well before concluding this inventory to take stock of present activities.

What are your present leisure-time activities?

Do they possess cultural value?

Do they afford real rest from your studies or other work?

Are they a source of much enjoyment and self-expression?

Do you have a special hobby that demands a large share of your time?

Are you laying the foundations for permanently satisfying avocational activities?

What college studies or activities are helping to furnish background for both present and future avocations?

One practical consideration with respect to avocations is the possibility of a serious one's becoming a vocation. This value of hobbies was recognized in the classification and assignment of military personnel in World War II. Times of rapid social change and economic upheaval have demonstrated the need of versatility as well as specialization to keep the harmonious adjustment between inner and outer forces that is the basis for efficiency and happiness in striving to reach envisaged goals.

SUGGESTED READINGS (see Selected References, pp. 471-483): 4; 6; 7; 30, 43; 63; 93; 107; 117; 132; 152; 178; 205; 213; 221; 247; 254, 261.

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PLANNING FOR MARRIAGE AND HOME

What is the importance of the home in modern life?

The choice of a mate and the establishment of a home constitute for the majority of human beings a life adjustment of major importance. The significance of this step is emphasized by Leo Baeck in the following statement:

His own life's lot, the fundamental fact of his life, has been drawn and prepared for every human being. He has not created the primary and deciding fact in his life; rather, it has created him. He has received the lot of birth, and has been born without his choice. But another bond in his life which is of similarly fateful importance, of a similar capacity for determination and encompassment, is effected by man himself; it belongs to his own will and to his own doing. When two human beings are united in marriage, they represent to each other the inception of a destiny which is to become the arena of their life's fate. However much desire and illusion, the power of the attractive and the destiny of the fascinating have seized on them and hold them, they still determine for each other their whole life's formation, their place in the world, their horizon. It is thus that two beings let their lives be born unto each other. Marriage becomes the second lot in life, the second fact of life (11, p. 464).*

This statement emphasizes the fact that the home is a builder of personality through face-to-face interrelationships. The older economic and educational functions have been taken over in large degree by other agencies, leaving the home freer as an agency for increasing human happiness through comradeship in living and the wholesome rearing of children.

In the United States today about one in every ten persons over forty-five years of age has never married as compared with

* Reprinted from Keyserling, Count Herman, *The Book of Marriage*, by permission of Harcourt, Brace and Company, Inc., New York.

practically universal marriage in primitive times and even now among primitive peoples. Census data show that of the population fifteen years of age or over the percentage that is married has increased steadily since 1890 and that this increase has been greatest among the younger people, particularly for the ages twenty to twenty-four.

The wartime marriages of the early forties lowered this age level somewhat and temporarily increased considerably the marriage rate per 1,000 population. The divorce rate has likewise been increasing. Divorces were about four times more frequent in 1930 than in 1890, and there is evidence that they are increasing in recent years, though they decreased slightly in the thirties. According to present trends, at least one in every five or six marriages may be expected to end in divorce (38, 180). One reason for this increase in divorce is that many people no longer regard marriage as a duty and sacrament but as a voluntary contract entered into for the realization of personal objectives. The divorce rate is not necessarily evidence of an increase in marital maladjustment, but it does suggest the great need for a better understanding of the factors that make for happy marital adjustment and for intelligent planning both before and during marriage. The story of the many hasty war marriages is not yet complete as to their permanency and their success in other ways.

Comparisons of married and unmarried persons have shown that the death rate of single men, including the widowed and divorced, is nearly twice as great as the death rate of married men, whereas there is little difference between the death rate of single and that of married women. The death rates of widowed and divorced men and those of women seem to invalidate the argument that the differences are due to the fact that the more healthy marry, and all these data suggest that married life is more healthful than single life, for men, at least. Other data showing that there is more insanity and crime among unmarried than among married men and women suggests that marriage may be a desirable state with respect to these conditions also, though the factor of selection of the fittest for marriage may help to invalidate the conclusion.

Surveys of the attitudes of high-school and college students indicate that the great majority are looking forward to mar-

riage as a means of achieving some of their major satisfactions. At the University of Minnesota students in the General College and young adults who had been students at that university were asked to check five of twenty-six aspects of life that would or did give them the greatest personal satisfaction. "A happy married life" appeared first in the list of five or six highest items. The lists also included "making a good home" and that of the women in the adult group, "children you can be proud of." All four lists of major satisfactions included a comfortable standard of living; but social prestige, power, and wealth were among the satisfactions checked least frequently.*

Reviews of the literature on student attitudes toward sex and marriage indicate a growing liberalism but not a radical change with respect to monogamous marriage and the family institution. Various studies have shown the number of children desired to range from an average of 2.3 to 2.8, a number insufficient to maintain the group in the general population. There has been much uncertainty and confusion of thought about such issues as feminism and women's work and desirable social relationships between the sexes before marriage. All the evidence points toward both need and desire for sound education and intelligent planning in this area of living.

It is difficult to understand why preparation for a human relationship so important both to the individual and to the group as marriage has been so thoroughly neglected. Society lays down regulations as to how the relationship shall be formed and how it may be terminated, but the understanding, skill, and artistry of living needed to make it a success and productive of its potentialities for self-realization have been largely left to chance. Many schools and colleges and some social agencies are now trying to meet the demand of young people for enlightenment regarding this aspect of life. The majority of young people, however, still have but little guidance except parental or friendly admonitions, their own limited observation, and blind impulse in a field of human endeavor that might well call for the wisdom of a Solomon and the technique of an artist.

* Staff of the General College, *Preliminary Report of the General College Adolescent and Adult Studies*, mimeographed, University of Minnesota, August, 1939, pp 129-212

For the majority of college students the following problems are deserving of careful study: What factors contribute to a happy and successful marriage? What light may such understandings cast on (1) the choice of a life mate, (2) the best preparation for married life, (3) the possible contributions of college experiences to this aspect of life?

What factors contribute to successful adjustment in marriage?

Until comparatively recent times the answer to this important question has been chiefly a matter of opinion based on observation, experience, and common sense. Several investigations have yielded interesting findings that give promise of sounder guidance than has hitherto been available. The specific findings do not agree in all respects, and the most comprehensive ones deal with statistical averages that may not apply to individuals. Only a few of the significant major conclusions can be summarized here; anyone interested should read the reports for himself (38, 229).

Terman and his associates at Stanford University investigated the relationship of several hundred possible factors to the marital-happiness scores of 1,133 married couples and 109 divorced couples. The main experimental group was composed of 792 married couples, and the variables studied fell into three main groups · personality factors, background factors, and specific sexual adjustments.

Outstanding among the findings of this study is the importance of happiness of temperament for happiness and good adjustment in home life. Particular trends of personality such as extraversion, dominance, and self-sufficiency did not appear as such to be determining factors in good or poor marital adjustment; but the presence of neurotic tendencies and lack of responsiveness, zest, vigor, or colorfulness of personality were most reliably associated with inadequacy or maladjustment in marriage. The following descriptions of the temperaments of happy and unhappy wives and husbands are, of course, too generalized to apply to all the subjects, but they are indicative of some of the general trends.

Happily married women, as a group, are characterized by kindly attitudes toward others and by the expectation of kindly attitudes

in return. They do not easily take offense and are not unduly concerned about the impressions they make upon others. They do not look upon social relationships as rivalry situations. They are cooperative, do not object to subordinate rôles, and are not annoyed by advice from others. Missionary and ministering attitudes are frequently evidenced in their responses. They enjoy activities that bring educational or pleasurable opportunities 'to others and like to do things for the dependent or underprivileged. They are methodical and painstaking in their work, attentive to detail, and careful in regard to money. In religion, morals, and politics they tend to be conservative and conventional. Their expressed attitudes imply a quiet self-assurance and a decidedly optimistic outlook upon life.

Unhappily married women, on the other hand, are characterized by emotional tenseness and by ups and downs of moods. They give evidence of deep-seated inferiority feelings to which they react by aggressive attitudes rather than by timidity. They are inclined to be irritable and dictatorial. Compensatory mechanisms resulting in restive striving are common. These are seen in the tendency of the unhappy wives to be active "joiners," aggressive in business, and overanxious in social life. They strive for wide circles of acquaintances but are more concerned with being important than with being liked. They are egocentric and little interested in benevolent and welfare activities, except in so far as these offer opportunities for personal recognition. They also like activities that are fraught with opportunities for romance. They are more inclined to be conciliatory in their attitudes toward men than toward women and show little of the sex antagonism that unhappily married men exhibit. They are impatient and fitful workers, dislike cautious or methodical people, and dislike types of work that require methodical and painstaking effort. In politics, religion, and social ethics they are more often radical than happily married women.

Happily married men show evidence of an even and stable emotional tone. Their most characteristic reaction to others is that of cooperation. This is reflected in their attitudes toward business superiors, with whom they work well, in their attitude toward women, which reflects equalitarian ideals, and in their benevolent attitudes toward inferiors and underprivileged. In a gathering of people they tend to be unself-conscious and somewhat extroverted. As compared with unhappy husbands, they show superior initiative, a greater tendency to take responsibility, and greater willingness to give close attention to detail in their daily work. They like methodical procedures and methodical people. In money matters

they are saving and cautious. Conservative attitudes are strongly characteristic of them. They usually have a favorable attitude toward religion and strongly uphold the sex mores and other social conventions.

Unhappy husbands, on the other hand, are inclined to be moody and somewhat neurotic. They are prone to feelings of social inferiority, dislike being conspicuous in public, and are highly reactive to social opinion. This sense of social insecurity is often compensated by domineering attitudes in relationships where they feel superior. They take pleasure in commanding rôles over business dependents and women, but they withdraw from a situation which would require them to play an inferior rôle or to compete with superiors. They often compensate for this withdrawal by daydreams and power fantasies. More often than happy husbands, they are sporadic and irregular in their habits of work, dislike detail and the methodical attitude, dislike saving money, and like to wager. They more often express irreligious attitudes and are more inclined to radicalism in sex morals and politics. (229, pp 145-146, 155.) *

Seemingly whatever favors the development of mental health favors happiness in home life.

The ten conditions that seemed to be most predictive of marital happiness were

Superior happiness of parents.
Childhood happiness.
Lack of conflict with mother.
Home discipline that was firm, not harsh.
Strong attachment to mother.
Strong attachment to father.
Lack of conflict with father.
Parental frankness about matters of sex.
Infrequency and mildness of childhood punishment.
Premarital attitude toward sex that was free from disgust or aversion (229, p. 372).

Income, age of the partners, amount of education, and religious training were relatively unimportant as compared with the foregoing items.

* Reprinted from Lewis M Terman, *et al*, *Psychological Factors in Marital Happiness*, by permission of McGraw-Hill Book Company, Inc, New York.

The grievances of either spouse against the other listed most frequently were not always those which were adjudged most serious. For example, slovenly appearance of wife ranked 48 for frequency in the husband's list but 6 for seriousness. Of the husbands who mentioned this grievance 100 per cent checked it as a cause of unhappiness, a record unequaled by any other item in either list (229, pp. 108-109). Certain specific sexual adjustments were shown to contribute materially to marital happiness or unhappiness; others often stressed as important showed little or no relationship to happiness scores. The data indicated that all the sex factors combined were far from being the major determinant of success in marriage. In the investigators' words, "couples who are psychologically well mated are likely to show a surprising tolerance for the things that are not satisfactory in their sexual relationships. The psychologically ill-mated show no such tolerance but instead are prone to exaggeration in their reports on sexual maladjustments" (229, p. 376).

Terman believes that promising beginnings have been made in methods for forecasting the happiness of a given marriage and that although any forecast at present would have a wide margin of error, this margin would be no longer than that involved in forecasting a student's college success from his previous school record. He cautions that since the ideals and philosophy of marriage are perpetually changing, no final method of marital research can be perfected and that each generation will present new aspects to be studied.

Another intensive study of 526 couples directed toward prediction of success or failure in marriage, by Burgess of the University of Chicago and Cottrell of Cornell University, involved methods similar to the one just described but stressed sociological more than the psychological aspects.

The investigators posit the following hypothesis as suggested though not conclusively established by their findings:

. . . that the basic factor in adjustment in marriage is an intimate and affectionate companionship. Where this exists the couple is well adjusted, disagreements do not arise, and if there are occasional differences of opinion they do not disturb the equilibrium of adjustment. . . . All the available evidence . . . is consistent in its indication that marriage based on companionship will, in gen-

TABLE IV—PREMARITAL ITEMS FAVORABLE TO ADJUSTMENT IN MARRIAGE
A COMPARISON OF FINDINGS OF ALL STUDIES*
(H, husband, W, wife)

Premarital items	Studies by Bernard, Davis, Hamilton, Hart, Kirkpatrick, Popenoe, and Schroeder	Terman's study (792 couples)	This study (526 couples)
Acquaintance, length of		H, 3 years or more W, 1 year or more	2 years or more
Age at marriage	H, 24 and over W, 20 and over (Hart)	H, 22 and over W, 20 and over	H, 22 to 30 W, 22 and over
Age difference	H, 0 to 10 years older W, 0 to 5 years younger (Bernard)		H, older by 1 to 3 years or same age as wife
Attachment to father		Good deal or very close	H, close W, close
Attachment to mother	.	Good deal or very close	H, close W, close
Attachment to parents, degrees of preference	W, absence of greater intimacy with one parent (Kirkpatrick)	W, absence of markedly greater attachment	
Attachment to siblings	.		H, none W, none or younger brother
Babies, learned origin of		W, 6 to 16 years	
Brother or brothers..	W has (Hamilton)		
Church attendance .	Three times a month (Schroeder)		H, two or more times a month W, four times a month
Conflict with father.		None or very little	H, little or none W, little or none
Conflict with mother		H, none W, none or very little	H, little or none
Courtship, length of			3 or more years
Discipline in home		Firm but not harsh	
Education, .	W, beyond high school (Davis) Spouses have equal education (Hamilton) beyond high school (Schroeder)	Beyond high school	H, college graduate or professional W, college, post-graduate, or professional

TABLE IV—PREMARITAL ITEMS FAVORABLE TO ADJUSTMENT IN MARRIAGE
A COMPARISON OF FINDINGS OF ALL STUDIES *—(*Continued*)

Premarital items	Studies by Bernard, Davis, Hamilton, Hart, Kirkpatrick, Popenoe, and Schroeder	Terman's study (792 couples)	This study (526 couples)
Employment, length of	.		W employed 7 or more years
Employment, regularity			Regularly
Employment, type			W, same as or similar to what she wants
Engagement, length of	Did not elope (Popenoe)	H, 6 months or longer W, 3 months or longer	9 months and more
Family background, level			Superior level
Family background, similarity			Similar
Friends, men			H, several or many W, does not lack
Friends, women	H, excess or deficiency (Kirkpatrick)		H, several or many W, many
Happiness in childhood		Above average	
Health	W, healthy (Davis)	.	H, healthy
Height-weight deviation			W, 15 or more pounds underweight
H physically resembles W's father		W, none, some, or close	
Income		.	H, moderate W, moderate
Married by	Minister or priest (Schroeder)	.	Minister, priest, or rabbi
Married where	.		At church or parsonage
Meeting place, first		Other than "pickup" or a place of private or public recreation	
Membership in organizations			H, two or more W, three or more
Menstruation, age at first		W, not before 12 years	

TABLE IV—PREMARITAL ITEMS FAVORABLE TO ADJUSTMENT IN MARRIAGE: A COMPARISON OF FINDINGS OF ALL STUDIES *—(Continued)

Premarital items	Studies by Bernard, Davis, Hamilton, Hart, Kirkpatrick, Popenoe, and Schroeder	Terman's study (792 couples)	This study (526 couples)
Mental ability, relative		W, husband not inferior H, husband not much superior	
Mothers' (H's) attractiveness as rated by H		H, average or above	
Occupation			H, certain occupations W, teaching
Order of birth	..	W, not only child	H, not only child, if only and youngest, do not marry only and youngest
Parents' approval of marriage		.	Approved by both
Parents' marital happiness	Rated happy (Popenoe, Schroeder)	W, about average or happier Rated (happy) H, rated decidedly happier than average	Rated happy
Parents' marital status	Not divorced or separated (Schroeder)		
Petting (or spooning)	W, none (Davis)	W, never	
Rearing, urban or rural	Country and small town (Schroeder)	.	Reared in country
Punishment in childhood		None, rare, or occasional	
Religious home training		H, considerable	
Residence, neighborhood			H, in suburbs W, small town or city suburb
Savings			H has
Sex—response of parents to child's early curiosity		Frank	
Sex, attitude toward..		H, indifference or interest and pleasant anticipation	

TABLE IV—PREMARITAL ITEMS FAVORABLE TO ADJUSTMENT IN MARRIAGE:
A COMPARISON OF FINDINGS OF ALL STUDIES *—(Continued)

Premarital items	Studies by Bernard, Davis, Hamilton, Hart, Kirkpatrick, Popenoe, and Schroeder	Terman's study (792 couples)	This study (526 couples)
Sex information, source of		Parents or teachers	
Sex, desire to be of opposite		W, never desired	
Sex instruction	W, some (Davis) from mother or books (Schroeder)	H, more than very inadequate W, not entirely lacking	
Sex shock		W, none from 10 to 15 years	
Sexual intercourse	W, none (Davis) W, none (Hamilton)	None, or with future spouse only	
Sunday-school attendance	Beyond 18 years (Schroeder)		Beyond 18 years
Wife physically resembles H's mother	H, wife resembles (Hamilton)	H, some or none	

* Reprinted from Burgess and Cottrell, *Predicting Success or Failure in Marriage*, by permission of the publishers, Prentice-Hall, Inc., New York, pp. 357–359.

eral, result in more harmonious unions than those chiefly inspired by romantic attitudes (38, pp. 52, 171).

Their generalized descriptions of happy and unhappy wives and husbands are as follows:

In general, happy wives are found to be secure, outgoing, optimistic, cooperative, benevolent, and conservative. Unhappy wives are found to be insecure, hostile, individualistic, assertive, and radical. Happy husbands are found to be emotionally stable, cooperative, benevolent, outgoing, responsibility-assuming, and conservative. Unhappy husbands are described as neurotic, emotionally unstable, insecure, domineering, withdrawing, and radical (38, p. 173).*

Six major findings of this study are summarized by the authors:

* Reprinted from *Predicting Success or Failure in Marriage*, by permission of the publishers, Prentice-Hall, Inc., New York

Contrary to prevailing opinion, American wives make the major adjustment in marriage.

Affectional relationships in childhood, typically of the son for the mother and the daughter for the father, condition the love-object choice of the adult.

The socialization of the person, as indicated by his participation in social life and social institutions, is significant for adjustment in marriage.

The economic factor in itself is not significant for adjustment in marriage, since it is apparently fully accounted for by the other factors (impress of cultural background, psychogenetic characteristics, social type, and response patterns).

With the majority of couples, problems of sexual adjustment in marriage appear to be a resultant not so much of biological factors as of psychological characteristics and of cultural conditioning of attitudes toward sex.

Prediction before marriage of marital adjustment is feasible, and should and can be further developed through statistical and case-study methods (38, p. 349). *

A comparison of the findings in similar studies of marriage adjustment has been charted by Burgess and Cottrell and is reproduced on pages 446-449. Caution should be used in studying and interpreting the items, since they are of varying reliability in the different studies and many of them may not be of great significance in the total life pattern of a particular individual or couple.

What are the most important considerations in the choice of a life mate?

The studies summarized above give us some of the best available guides for the formulation of mate-selection standards. However, each individual should consider the relative importance of the various possible factors. One or more may be crucial in a particular situation and relatively unimportant in others because of the total pattern of influences.

Individual standards should be formulated from two points of view: requisites for a companion and requisites for a parent. A wholesome personality would seem to be basically important for both purposes. Community of interests and compatibility

* Reprinted from *ibid.*

would be two essentials for the first purpose, and health and family heritage should be fundamental considerations for parenthood. Beyond these the list of criteria for choice would doubtless vary considerably among individuals, depending upon their ideals and tastes.

One cumulative study of the attitudes of several hundred college students collected over a period of six years indicated that they were thinking soundly with respect to at least one factor that should enter into the choice of a marriage partner. Practically all of them agreed that they would not marry a person of unattractive disposition and personality. Very few attached importance to differences in economic rank. Differences in moral standards and family status were significant with from one-fifth to one-fourth of the group, and religious differences with approximately one-half of them. Research findings suggest that many placed too little stress on the first two of these factors and too much on the third. Possible age differences were a concern of more students than data on marriage adjustments would warrant. Of the men students, 76 per cent stated that they would marry a person of less intelligence or education, and 82 per cent of the women said that they would not. Burgess and Cottrell found that increased chances of success in marriage went with a rising level of educational achievement of both husband and wife (38, p. 122).

Further research and the establishment of scientific bureaus for the guidance of couples contemplating marriage may ultimately reduce chance in marital adjustment. In the meantime individuals can profitably examine their assets and liabilities for marriage and plan as intelligently as their understandings will permit.

Newell W. Edson has suggested the following tests of a wise choice of a mate that might well supplement the study of research data (78):

Sex attraction and genuine love as the first essentials.
Genuine interest in the person.
Community of tastes, ideals, and standards with no serious clashes.
Greater happiness in being with this person than with any other person.

Real unhappiness when the other is absent—not mawkish sentimentality, but a genuine longing to be with the other.

A feeling of comradeship.

The willingness to give and take, to give one's best and to take with serenity and happiness what the other gives.

The disposition to give fair consideration to the judgments of the other, involving both a sense of fair play and a recognition of the worth of the other's judgment.

Pride in the other as to appearance, bearing, approach to others, and vice versa, when compared with other persons.

A wealth of things to say and do together, *e.g.*, music, books, drama, art, and outdoor life.

Personal Inventory

List the considerations that you think should enter into your choice of a mate.

For each factor list the qualities or background conditions that you desire for a mate.

List your personal qualities and background conditions that would seem to be assets.

List those that might prove to be liabilities

Map out a tentative program of dealing with these liabilities.

What contributions may college experience make to successful marriage?

The unequivocal emphasis in research findings upon personal qualities and compatibility would suggest three lines of desirable preparation for marriage: self-appraisal with a view to the development of a more livable personality; sufficient self-knowledge and understanding of others to judge wisely as to requirements for compatibility in a mate; and understanding of the basic requirements for harmonious personal relationships and the development of the requisite qualities and skills.

We have studied the problems of personality development sufficiently to make clear that one cannot change radically in a short period of time. An individual will bring into a newly established home relationship the personal qualities that he has developed during his past life, and these will contribute to the happiness or unhappiness of both partners, depending on their nature All previous living is thus a preparation for marriage;

and adolescence, when the personality is still plastic, is the best time to start conscious preparation.   Emphasis is thus placed not only on what one desires in a mate but on what one is able personally to offer a mate.

An understanding of the biological and eugenic aspects of marriage as well as the social and psychological is also important.   Preparation for parenthood should, of course, include a thorough understanding of the general nature of heredity, specific knowledge of the heritage of each partner, and a careful consideration of the probabilities for desirable and undesirable inheritance in offspring.   A knowledge of the principles of child development should be another prerequisite.

Paul Popenoe, director of the Institute of Family Relations at Los Angeles, has declared that, among educated classes, more marriages result from associations in school and college than from any other source and that these marriages are conspicuously successful.   He asserts that one of the greatest contributions that the high school and college can make to individual happiness, social stability, and eugenic progress is through the socializing of their student bodies (175).

College has been called a facilitating agent because it permits young people from widely separated regions to meet and associate with each other.   These contacts help one to judge which qualities of personality in others are best suited to one's own.   Companionship and friendship also help to develop and improve one's standards regarding qualities to be desired both in one's self and in friends.   Without this broadening and stabilizing influence there is more danger of being swayed by momentary infatuations which experience has shown rarely result in a lasting happiness.

In addition to the social side of college life there are untold opportunities in its academic and cultural aspects for the development of interests, appreciations, and skills and the acquisition of knowledge bearing on phases of home life.   Courses in biological science, sociology, and psychology should have a wealth of significant material applicable to family relationships and parenthood.   The future will undoubtedly see the introduction of many more courses into college curriculums dealing with this important phase of living.

What problems related to sex and marriage are of immediate
concern to college students?

The question of "petting." This is a perennial question that
perhaps disturbs some young people too much and others too
little. It is, certainly, a matter upon which unmarried youth
should have all pertinent information. Some physical expres-
sions of affection through kissing and caresses are generally
accepted in the social mores as suitable and desirable during
courtship when marriage is anticipated, and occasional light
"petting" such as a casual kiss expressing admiration between
good friends of the opposite sex is seldom questioned. So-called
"heavy petting," however, involves fundamental considerations
of human welfare and happiness that the intelligent person
will not lightly set aside. We can only touch upon a few of
them here. It is recommended that every young person read
one of the following books listed in the Selected References,
pages 471-483: 39, 49, 78.

The practice of "petting" on a "date" is merely a way of
deriving ephemeral satisfaction or a "kick" from the physical
aspects of sex. For either the man or the woman it may in-
volve unsportsmanlike exploitation of the partner for activities
that are as infantile or immature as masturbation or parental
fondling. From the viewpoint of mature activities it is, to say
the least, a very limited expression of personality with its
heavy emphasis on the physical side. It reveals the paucity of
resources for engaging in recreational activities that may
foster fine friendship and comradeship. Investigations of mari-
tal happiness show that physical sex experience is of impor-
tance only as it becomes an integral part of the whole affec-
tional life of partners and then is less important than the
personality interrelationships. Interestingly enough, these
studies also show that marital happiness is much more fre-
quently associated with absence of "spooning" or sexual inti-
macy before marriage than is marital unhappiness. Hesitant
young women who fear unpopularity and lack of "dates," as
well as their less cautious sisters, may well ponder these facts,
in addition to the evidence that men seldom seem to use the
same criteria for choosing "petting" and marriage partners.
Men and women with any individual and social perspective on

life will become informed about the dangers of pregnancy and venereal disease and will not sacrifice major life values for themselves or others for minor satisfactions.

These considerations do not point toward fear and unwholesome inhibition as the chief determiners of conduct but rather toward intelligent understanding of the whole person and enlightened direction of self-expression in harmony with a growing philosophy of life and objectives for living. It will be recalled that an attitude toward sex free from disgust or aversion was one of the ten conditions most predictive of marital happiness (see page 444). Acceptance of sex as a valuable aspect of a well-balanced life will result in efforts to become soundly informed about this phase of life and to develop standards with respect to it. The normal person will also strive to make himself attractive in appearance and manners and resourceful in conversation and recreational skills. Courage and self-discipline based on wisdom rather than fear or indiscretion due to ignorance can then be directing forces in one's life. It has been aptly said that "the only really free love is still to be found in marriage."

Postponement of marriage. Preparation for professional careers inevitably results in the deliberate postponement of marriage far beyond the attainment of physical maturity and often of emotional readiness. It is frequently associated with tension and unhappiness due to a sense of frustration of normal desires. The idealization of life and the liberalism and isolation of atmosphere on many college campuses may tend to increase self-consciousness and restlessness. Opportunity for earlier marriages has been advocated as a solution, and a few limited surveys of the sex life of college students have indicated that considerable numbers were not preserving their virginity for marriage. No thoroughly dependable information on this latter point seems to be available. Ernest R. Groves, a well-recognized authority in the study of marriage, has commented as follows on the sex adjustment of college men and women: "In spite of liberal talk-fests, there never was a time when prostitution or exploitation of others was less favored as a way of escape from the sex-tension of college years. College men and women are more conscious of their needs and more willing to face their emotional conflicts" (103).

Research has indicated that economic status and careers or remunerative work of wives are relatively unimportant factors in the total marriage picture, assuming, of course, the possibility of a reasonably adequate income. The economic status does, however, acquire more significance when the proper care of young infants is faced, and reliable medical authorities do not promise 100 per cent efficacy of any known birth-control measures.

Another question that has been a concern especially of men is that of the possible lessening of sexual powers with disuse and the relationship of sex experience to mental health. Scientific and medical data give convincing evidence that postponement of sexual experience does not weaken sexual power and that any effects on mental health are a result of attitudes and mental conflicts that are subject to control. One authority * has made the following statement about these matters:

It is a unique characteristic of the human race that in this species sex excitability and the capacity for sex activity are present almost continuously after maturity and are prolonged considerably beyond the years of child bearing. . . . It is my strong conviction that a considerable number who have taken this new liberty [freedom for sex gratification] have gotten into more emotional difficulties than they have escaped and that there has been already a large loss for social motivation and general happiness resulting from the change in customs (223).

Nature itself will care for the physical release of tension. Mental and emotional stress may be avoided or relieved through interesting work and recreation. If marriage is accepted as an ultimate goal and planned for frankly, then it can be worked toward along with other desired life goals.

Living happily with one's immediate family. Difficulties in the process of psychological weaning from too great dependence on parents during adolescence may result in tension, loss of companionship with parents, and the assumption of attitudes and conduct patterns that are a liability in future home life. Failure to grow out of emotional dependence and fixation on

* Professor David Camp Rogers, quoted by W. S. Taylor, in "A Critique of Sublimation in Males: A Study of Forty Superior Single Men," *Genetic Psychology Monographs,* 13 98-99, January, 1933.

parents will likewise be a disabling factor in marriage and in adult relationships.   Jealousy and conflict or too strong attachments among brothers and sisters or the failure of an only child to learn how to give and take unselfishly may be adverse factors in the family background for happy adult living. There is scientific foundation for the statement that effective living in one's childhood home is one of the important types of preparation for living in one's purposefully established adult home.

Although one cannot influence the conditions in one's parental home so much as in one's own later home, much insight into desirable possibilities can be gained from trying to understand the fundamental human forces at work there.   This insight may help one to avoid some undesirable effects as well as to capitalize the finer influences.   Sympathetic understanding of the personalities, desires, and needs of parents, brothers, and sisters and unselfish cooperation in the task of creating a more satisfying life for all members of the family can yield rich returns in training for one's later happiness as mate and parent.

What adjustments are necessary for successful marriage?

The author once had the privilege of listening to the reading of a very beautiful marriage contract which had been drawn up by two young people as a tangible expression of the values that they hoped to realize through their life together.   Both had been trained as scientists, and hence they pledged mutual assistance in the achievement of their ambitions in their respective fields of scientific endeavor.   They expressed the desire, however, that their work should never be allowed to interfere with the realization of the best in their love for each other and should never separate them for any considerable length of time. Following the many provisions relating to various aspects of their life, they agreed always to extend the same courtesy to each other that either would extend to an admired friend.   Such a contract resulting from the thoughtful study of marriage and reread on anniversaries, as was this one, would undoubtedly prove a valuable assistance to many young people in the realization of their mutual ideals and goals for marriage.

A marriage that results from "love at first sight" without a

deep understanding between the partners is precarious. Certainly the idealistic romantic element is of great importance. But to hold marriage on this level, one must follow some practical rules of the game. Good sportsmanship should guide the partners in this enterprise.

Sportsmanship in marriage means a willingness for mutual adjustments in the various phases of home life. Some of these important areas are the use of time and money, choice of friends and recreation, living arrangements, sexual relationships, and child rearing. The person who refuses to sacrifice any of his own desires in these respects is laying the foundations for marital failure.

Marriage can be as wonderful as the romantic stage portrays it. But, as with other achievements, success requires intelligent planning and effort. It does not just happen. The wise student will improve his habits of adjusting and cooperating with others. Thus he will be preparing for the greatest and happiest adventure in life.

PERSONAL INVENTORY

Try to formulate a definite statement of your ambitions and ideals with respect to marriage.

How may college experiences contribute to your preparation for successful and happy home life? List understandings, skills, and appreciations important for effective home living, and indicate the specific ways in which college may help you to acquire them.

Outline ways in which you may contribute to the enrichment of your present home life.

28; 35; 38; 39; 49; 76; 78, 88; 98; 153, 194; 229; 240; 247.

Chapter XXVII

ACHIEVING DEMOCRATIC CITIZENSHIP *

What does democratic citizenship imply?

You are living in a nation built upon faith in the democratic ideal. That ideal has grown out of centuries of human striving for a more satisfying way of life. Its manifestations in human relationships are still imperfect, and its meanings have grown and changed through human experience.

The interlude between two world wars witnessed the repudiation of this democratic ideal among a large portion of the human race in favor of marching puppetry at the command of dictators in totalitarian states. The defeat of these dictators and their military machines has not eliminated many conditions that menace our American culture and that have caused some to prophesy its doom. Continued effort is needed to preserve it and to give it fuller meaning.

What is this democratic ideal? No final answer can be given to this question, since each generation adds its new meanings. However, fundamental to our American faith is the recognition of the dignity and worth of every individual and his need of freedom for self-determination within the bounds of the welfare of all.

Throughout your school career you have doubtless studied the dramatic events associated with the beginnings of our nation and with crises in its development, also the less dramatic but complicated problems of living in our technological civilization. You may not have come to feel the full significance of this historic past and its relation to the insistent present in your own life. You may well ask why you are having this opportunity for self-development through college study and campus activities on top of twelve or more years of previous

* The first draft of this chapter in the previous edition was prepared in collaboration with Stephen C. Clark, Jr, formerly senior student, University of Washington, now at Yale University.

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schooling, whereas many youths in lands devastated by war have for years lacked not only educational opportunities but many of the basic necessities for normal physical development.

As you know from your study of history, America became a land of opportunity for many who were escaping from oppression, tyranny, and frustration in other parts of the world. Here they encountered new aspects of this agelong human problem. In the Declaration of Independence and the Constitution of the United States with its Bill of Rights were crystallized some of their convictions regarding the rights and possibilities of mankind and the best ways of protecting and improving human welfare. Among the principles set forth was the democratic idea of governmental power derived from the consent of the governed for the purpose of preserving human rights, promoting the general welfare, and guaranteeing individual freedom in the exercise of certain civil liberties and equality before the law.

During the past century and a half this ideal has expanded and taken on new meaning through the abolition of slavery and the achievement of universal suffrage. Occupational stratification of our population has lessened, and we have made many gains in social and economic as well as political democracy. We have achieved what was once thought to be impossible—the establishment of a strong representative Federal government in an area of between three and four million square miles. Technology with its new methods of transportation and communication has helped to make this possible. Hand in hand with democratic traditions and practices, technology has revealed the possibilities of a civilization in which human beings can work, play, and live creatively—a culture in which the human spirit may be released sufficiently from the demands for sheer existence to find outlet in truth seeking, human betterment, and all the varied forms of creative self-expression.

This same technology, however, has helped to create problems of living that may bear the seeds of destruction of our culture if not solved through the creative intelligence and co-operation of enlightened citizens. Equality of opportunity, freedom, and civil liberty; government by the consent of the governed; and any real brotherhood of man, no matter how democratic the form of government may be, are impossible

where there are unemployment; poverty; unhealthful and un-
wholesome surroundings; inadequate food, medical care, educa-
tion, and recreation; unfairness and injustice in relationships
among people and nations; and deceptive propaganda. The
insecurity and frustration engendered by such conditions, cou-
pled with technological means of communication at the disposal
of dictators, helped to bring into existence, for perhaps the first
time in history, totalitarian states that claimed to rest upon
the active consent of the governed. For the promise of a little
security the people in these totalitarian regimes were duped
into sacrificing control over their feelings, desires, emotions,
and opinions as well as their total way of life. John Dewey
warned that the threat to our culture was not merely the exist-
ence of these foreign totalitarian states but the existence
within our own institutions of conditions similar to those which
led to acceptance of external authority and dependence upon
a leader. The battlefield, he says, is within ourselves and our
institutions.*

Every American citizen needs to ask himself: What are the
advantages of our social order? What rights and privileges
should every citizen enjoy? What duties must the citizen fulfill
if he is to enjoy these rights and privileges? How may he pre-
serve, improve, and extend democratic living? What shall be
his contributions as well as his benefits within this culture?
What are his opportunities and responsibilities in the inevitable
relationships with other culture groups? How may he con-
tribute to human welfare and world peace through interna-
tional cooperation? These questions strike at the very heart
of your possibilities for "life, liberty, and the pursuit of hap-
piness" as student, friend, worker, homemaker, and citizen.
They should challenge your best thinking as to how college ex-
perience may help you to answer them in your living both now
and in the future.

What are the advantages of a democratic environment?

The democratic ideal is perhaps too firmly embedded in our
American traditions to need justification through scientific

* In *Freedom and Culture,* New York, G. P. Putnam's Sons, 1939,
pp. 49, 131.

research.   However, interesting experimental data are available as to the relative influence on behavior of authoritarian, democratic, and laissez-faire conditions within groups.   In one experiment reported by Kurt Lewin, ten-year-old boys were organized into clubs for craftwork operating under these three conditions.   In the authoritarian group, tension occurred more frequently than in the others owing to pressures exerted by the leader and restricted space of free movement.   This tension was expressed in both aggressive and apathetic behavior.   Tension in the democratic group appeared as social activity to gain recognition of colleagues.   In the laissez-faire group the freedom of activity was also less than in the democratic group owing partly to the interference of the work of one individual with the activities of his fellows.*   Other experiments with children have suggested significant differences in the influence upon personality development of democratic and authoritarian regimes.   A shift from adult authority to adult guidance of a self-governing group of children living in a cottage in a community center was accompanied by a decrease in fighting and infraction of rules and an increase in cooperativeness.   Two groups of nursery children, one reared democratically with participation in group decisions, the other autocratically with no such participation, showed marked differences in behavior. About thirty times as much hostility was expressed in the autocratic group as in the democratic group by combining against one of their number to make him the scapegoat.   The democratic group was described as being more stable and having a better developed feeling for group goals.†

Observers of life in totalitarian countries report little freedom in the selection of work, friends, personal activities, thought and expression and in participation in government. The fear, hatred, intolerance, and aggressive violence in these regimes furnished excellent evidence of frustration in the totalitarian way of life.   Citizens in a republic or representative

* Lewin, Kurt, Roland Leppitt, and R. K. White, "Patterns of Aggressive Behavior in Experimentally Created 'Social Climates,'" *Journal of Social Psychology*, 10 271-299, May, 1939.

† Guilford, J P. (editor), *Fields of Psychology*, New York, D. Van Nostrand Company, Inc, 1940, pp. 180-181.

democracy have the choice today between yielding to cynicism about imperfections and strengthening their faith in their way of life.

How may college experiences contribute to your citizenship?

A democratic society is built upon faith in the ability of human beings to reach wise group decisions. It assumes the willingness of each member to cooperate in achieving group purposes and desires. Community of purpose does not necessarily imply unanimity of opinion about the best ways of reaching common objectives. Rather it depends upon the ability to carry on continuous inquiry with respect to possible solutions of problems, the tolerance to consider varied points of view, the objectivity needed to distinguish between group and personal interests, and the sportsmanship to accept majority rule but to protect the rights of minorities. This process requires enlightened leaders and followers with perspective on the past, understanding of the realities of the present, and vision for the future.

College students have the opportunity unequaled elsewhere to acquire this preparation for citizenship. The combined scholarship of the faculty, together with library resources, probably represents the greatest concentration of human understanding about the heritage of the human race that can be found anywhere. Association with students from other lands presents the opportunity for real understanding of other cultures and for the elimination of the prejudices that help to perpetuate interracial and international conflicts. Also, freedom of inquiry, thought, and expression is cherished in most institutions of higher learning. Dictatorships have taught us that freedom of speech means nothing unless there is back of it freedom to find the facts. Dictators spoon-feed the minds of their subjects and mold their emotions from babyhood and therefore have nothing to fear in their words. The student who slips through four years of college, or even one, without deepened and broadened understanding of the world of people and things and keener power of using this understanding in thinking about human problems is failing in his trust to the society that is nurturing him.

Understanding problems of democratic life and thinking

about their solutions is one thing. Helping actively to solve these problems and living democratically is something else. The really effective citizen must do all these things. Campus life affords excellent experience in democratic citizenship This means not only adherence to group regulations and cosmopolitan good fellowship but earnest, intelligent study of how the student life may become a better medium for learning and self-development of all and active cooperation in the improvement of that life. Such campus citizenship entails unselfish service as well as personal growth and enjoyment.

Most college campuses are not ivory towers, and none should be. To give realistic training in citizenship they should be closely related to the community about them and widely in touch with the whole world. Many student-faculty groups have demonstrated the dynamic worth of scholarship through intelligent study and action with respect to vital economic, social, or political problems of their community and region. Similar demonstrations are needed regarding world-wide problems of humanity.

How shall you plan and prepare for citizenship beyond college?

What are you becoming as a person? As in every field of human endeavor, what you are as a person determines in large part your worth as a citizen. This is the reason for continuous emphasis throughout this book upon self-understanding, self-direction, and self-discipline. If you are ignorant of your strengths and weaknesses, you cannot develop and use them effectively. If you are blind to your prejudices and unaware of unwholesome attitudes or emotional trends, you cannot see the realities of life clearly or deal with them fairly and honestly. If you have failed to develop self-discipline, you cannot meet life courageously. Any society is as strong as the characters of its citizens.

What are you becoming as a worker? Useful citizenship involves earning a living and providing for the needs of one's family. Beyond these basic responsibilities is the opportunity to use one's talents and powers to advance human welfare. Have you considered the possibilities for such service through your chosen vocation? Are you taking advantage of every opportunity to develop the skills, understanding, and vision

that will enable you to give your best service? If you are faced with decisions among the use of your training for private profit, for prestige, or for social welfare, do you know which you would choose?

What are you becoming as a future homemaker? In the relationships of home life are developed the primary loyalties and types of human relationships that make possible the un-selfish cooperation of democratic citizens. In your present relationships with parents, brothers and sisters, and friends you have the opportunity to develop the qualities that will help to make your future home a source of happiness and power to you and your mate and a suitable environment for the training of your children for effective citizenship. Will you help to maintain standards of health, hygiene, and conduct in your home that not only prevent harm, injury, or unpleasantness to others but may be a positive influence for improved living? Are you taking advantage of your opportunities in college study for becoming a more intelligent and enlightened homemaker?

What shall you contribute to democratic citizenship? Primary considerations are, of course, knowledge of and obedience to existing laws and an enlightened use of the suffrage and political and governmental agencies. This presupposes an understanding of the complicated processes of governmental action as well as of the human problems with which it deals. Are you familiarizing yourself with the history and present status of government in your own and other countries of the world? Are you becoming informed about the issues that must be solved through group study and action? Do you know the sources of reliable information on these problems, and are you increasing your skill in differentiating between propaganda and verified knowledge? Have you tentatively selected certain areas or problems of human welfare to which you think you can devote your best service? Are you developing skill in public service through group study and democratic group action?

What shall you contribute to world citizenship? International organization to deal with matters of world security has lagged far behind the socioeconomic unity and interdependence of nations caused by scientific and technological developments. Out of the crucible of world war has come the United Nations. Back of this is a long history of efforts to achieve international

cooperation, sometimes partially successful, sometimes blocked by ignorance, prejudice, or selfish interests. American citizens have the obligation to become enlightened regarding this world organization and have the privilege of becoming identified with it as world citizens. This world citizenship should enhance national citizenship.

It has been argued frequently that international cooperation and enduring peace could never be achieved because of man's pugnacious instincts that would inevitably find outlets in war. This point of view has recently been refuted in *The Psychologists' Manifesto*, a statement on "Human Nature and the Peace" by a group of eminent psychologists.* This statement was circulated among their colleagues for criticism or approval and 99 per cent of those replying concurred in and signed it. The statement is included here because of the helpful suggestions it contains for the contributions of citizens to world peace.

HUMAN NATURE AND THE PEACE

A STATEMENT BY PSYCHOLOGISTS

Humanity's demand for lasting peace leads us as students of human nature to assert ten pertinent and basic principles which should be considered in planning the peace. Neglect of them may breed new wars, no matter how well-intentioned our political leaders may be.

1. *War can be avoided: War is not born in men; it is built into men.*

No race, nation, or social group is inevitably warlike. The frustrations and conflicting interests which lie at the root of aggressive wars can be reduced and re-directed by social engineering. Men can realize their ambitions within the framework of human cooperation and can direct their aggressions against those natural obstacles that thwart them in the attainment of their goals.

2. *In planning for permanent peace, the coming generation should be the primary focus of attention.*

Children are plastic, they will readily accept symbols of unity and an international way of thinking in which imperialism, prejudice, insecurity, and ignorance are minimized. In appealing to older people, chief stress should be laid upon economic, political,

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* Allport, Gordon W., "Human Nature and the Peace," *Psychological Bulletin*, 42·376-378, June, 1945.

and educational plans that are appropriate to a new generation, for older people, as a rule, desire above all else, better conditions and opportunities for their children.

3. *Racial, national, and group hatreds can, to a considerable degree, be controlled.*

Through education and experience people can learn that their prejudiced ideas about the English, the Russians, the Japanese, Catholics, Jews, Negroes, are misleading or altogether false. They can learn that members of one racial, national, or cultural group are basically similar to those of other groups, and have similar problems, hopes, aspirations, and needs. Prejudice is a matter of attitudes, and attitudes are to a considerable extent a matter of training and information.

4. *Condescension toward "inferior" groups destroys our chance for a lasting peace.*

The white man must be freed of his concept of the "white man's burden." The English-speaking peoples are only a tenth of the world's population; those of white skin only a third. The great dark-skinned populations of Asia and Africa, which are already moving toward a greater independence in their own affairs, hold the ultimate key to a stable peace. The time has come for a more equal participation of all branches of the human family in a plan for collective security.

5. *Liberated and enemy peoples must participate in planning their own destiny.*

Complete outside authority imposed on liberated and enemy peoples without any participation by them will not be accepted and will lead only to further disruptions of the peace. The common people of all countries must not only feel that their political and economic future holds genuine hope for themselves and for their children, but must also feel that they themselves have the responsibility for its achievement.

6. *The confusion of defeated people will call for clarity and consistency in the application of rewards and punishments.*

Reconstruction will not be possible so long as the German and Japanese people are confused as to their status. A clear-cut and easily understood definition of war-guilt is essential. Consistent severity toward those who are judged guilty, and consistent official friendliness toward democratic elements, is a necessary policy.

7. *If properly administered, relief and rehabilitation can lead to self-reliance and cooperation; if improperly, to resentment and hatred.*

Unless liberated people (and enemy people) are given an opportunity to work in a self-respecting manner for the food and relief they receive, they are likely to harbor bitterness and resentment, since our bounty will be regarded by them as unearned charity, dollar imperialism, or bribery. No people can long tolerate such injuries to self-respect.

8. *The root-desires of the common people of all lands are the safest guide to framing a peace.*

Disrespect for the common man is characteristic of fascism and of all forms of tyranny. The man in the street does not claim to understand the complexities of economics and politics, but he is clear as to the general directions in which he wishes to progress. His will can be studied (by adaptations of the public opinion poll). His expressed aspirations should even now be a major guide to policy.

9. *The trend of human relationships is toward ever wider units of collective security.*

From the caveman to the twentieth century, human beings have formed larger and larger working and living groups. Families merged into clans, clans into states, and states into nations. The United States are not 48 threats to each other's safety; they work together. At the present moment the majority of our people regard the time as ripe for regional and world organization, and believe that the initiative should be taken by the United States of America.

10. *Commitments now may prevent postwar apathy and reaction.*

Unless binding commitments are made and initial steps taken now, people may have a tendency after the war to turn away from international problems and to become preoccupied once again with narrower interests. This regression to a new postwar provincialism would breed the conditions for a new world war. Now is the time to prevent this backward step, and to assert through binding action that increased unity among the people of the world is the goal we intend to attain.

World peace, like democracy, requires intelligent leadership and followership and the unselfish cooperation of all concerned. Are you informing yourself regarding the issues of international organization and policy? Are you applying the principles of action essential for peace in your daily relationships with people of every racial or national group? In what ways

do you think that you can make your best contributions to international cooperation and world peace?

What are your developing loyalties? You have already experienced some of the meanings of loyalty to family, friends, school, college, and country. Have you lived vicariously in the lives of those who have built up our American culture, so that you know and feel the sources of their power, their enthusiasms, and their achievements that are enriching our lives today? Are you utilizing your college study to live vicariously in the lives of human leaders of all times so that you may know and feel the sources of human inspiration that have raised life to its present level? To what loyalties shall you devote your life?

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APPENDIX

The time spent in reading twenty pages of the daily text assignment in a course was checked and recorded once a week for ten weeks and grades in weekly tests were likewise recorded. Numerical values were then assigned, as indicated at the left of Charts A and B, to both time and grade records and these two scores for each week were multiplied to secure an achievement score The effort was made during the period of checking to decrease reading time and improve grades on weekly tests Note how the grade on the fourth weekly test lowered the achievement score for the fourth week, and the increased reading time the fifth week lowered the achievement score for that week Beginning with the sixth week a good adjustment between reading time and achievement is evidenced

TABLE A

Week	Minutes spent in reading 20 pages of text
1	62
2	58
3	52
4	40
5	55
6	46
7	41
8	38
9	34
10	32
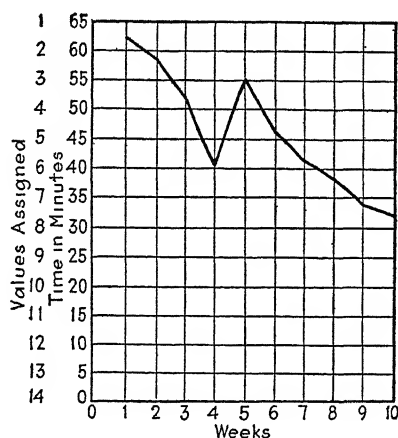
CHART A —Time required for reading.

TABLE B

Week	Grades on weekly tests
1	C
2	C+
3	B
4	C−
5	B
6	B
7	B+
8	A−
9	B+
10	B+
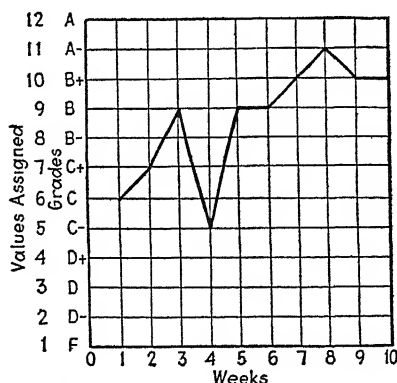
CHART B.—Grades received on tests.

TABLE C.—ACHIEVEMENT SCORES

Week	Values assigned to reading time	Values assigned to grades on weekly tests	Achievement scores
1	1 6	6	9 6
2	2 4	7	16 8
3	3 6	9	32 4
4	6.0	5	30 0
5	3 0	9	27 0
6	4 8	9	43 2
7	5 8	10	58 0
8	6.4	11	70.4
9	7.2	10	72 0
10	7.6	10	76.0
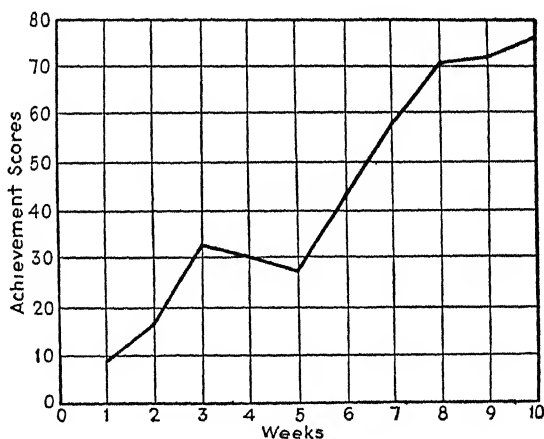
CHART C—Record of progress in reduced time for reading and improved grades on tests.

MINNESOTA OCCUPATIONAL RATING SCALES

Showing a selected group of occupations rated in terms of abstract intelligence, mechanical ability, social intelligence, artistic ability, and musical talent. (Most occupations that require little or no college training have been omitted in this reprinting of the scales.) *

* Prepared by Eleanor S. Brussell, Harold Cisney, and Minnesota Mechanical Abilities Research Staff under the direction of Donald G. Pater-

The occupations in the complete scale were classified by twenty industrial and vocational psychologists as to average requirements with respect to abstract intelligence, mechanical ability, social intelligence, artistic ability, and musical talent. In addition, eight musicians and five artists supplied ratings with reference to musical ability and artistic ability, respectively.

As an aid in securing greater agreement among raters, the abilities were arbitrarily defined as follows:

By *abstract intelligence* is meant the ability to understand and manage ideas and symbols.

Mechanical ability includes both the ability to manipulate concrete objects—to work with tools and machinery and the materials of the physical world—and the ability to deal mentally with mechanical movements.

By *social intelligence* is meant the ability to understand and manage people—to act wisely in human relations.

Artistic ability refers to both the capacity to create forms of artistic merit and the capacity to recognize the comparative merits of forms already created.

Musical talent requires the capacity to sense sound, to image these sounds in reproductive and creative imagination, to be aroused by these emotionally, to be capable of sustained thinking in terms of these experiences, and, ordinarily, to be able to give some form of expression in musical performance or in creative music.

The categories as defined and used as a guide by the raters follow:

Six Categories of Abstract Intelligence

1. High professional and executive occupations:
   Requiring very superior intelligence with training equivalent to college graduation from a first-class institution High standards, with ability for creative and directive work, such as lawyer, college president, president of a large manufacturing concern, etc.
2. Lower professional and large business occupations:
   Requiring superior intelligence with training *equivalent* to two or three years of college or to that of executive of moderately large business. Achievements less creative than in Group 1 but also demanding executive and leadership ability, such as executive of a moderately large business, veterinary doctor, high-school teacher, etc.

3. Technical, clerical, supervisory occupations:

Requiring high average intelligence with training *equivalent* to high-school graduation. Minor executives (foremen, department heads) or highly technical work often involving dealing with abstract classifications and details, such as railroad clerks, some retail dealers, photographers, telegraphers, shop foremen, stenographers, etc.

4. Skilled tradesmen and low-grade clerical workers:

Requiring average intelligence with *equivalent* of some training beyond the eighth grade. Mechanical work demanding specialized skill and knowledge; tasks mostly of a complicated but concrete nature and requiring particular technical training, such as auto mechanic, stationary engineer, file clerk, typist, etc.

5 Semiskilled occupations:

Requiring low average or slightly below average intelligence, with training *equivalent* to seventh or eighth grade Work demanding a minimum of technical knowledge or skill but a maximum of special abilities, such as dexterity in the performance of repetitive and routine work, such as packer in factories, operatives in factories (operating machines but do not understand principles and are unable to repair or set up the machine), lowest grades of clerical work also, such as number sorters, deliverymen.

6. Unskilled occupations·

Requiring inferior intelligence only, with no formal training necessary. Routine manual work under supervision and requiring no skill or technical knowledge, such as day laborers, railroad section hands.

Six Categories of Mechanical Ability

1. Inventive

Requires highest degree of mechanical ability and knowledge, usually specialized training of high order, and sufficient mastery of principles involved to utilize them in independent and creative capacities. Examples: Inventive mechanical genius, machine designer, mechanical engineer.

2. Higher technological:

Requires mechanical ability and knowledge of high degree, considerable specialized training, and mastery of principles permitting independent, although not necessarily original, work. Examples: Master mechanic, toolmaker, civil and electrical engineers.

3. Skilled tradesmen, *high level:*

Requires mechanical ability and specialized skill. Must be able to do critical work, check results, etc. Competent to work without immediate supervision. Examples: Draftsman, electrotyper, engraver.

4. Skilled tradesmen, *low level:*

Requires some mechanical ability and skill, but only a limited knowledge of the processes involved The work is partly preplanned and requires some supervision. Examples. Bricklayer, metal finisher, tire repairer, cobbler.

5. Semiskilled operatives:

Requires manual dexterity, but little specialized skill or knowledge, except what can be acquired in a short period of training, usually involves adjustment to an externally imposed rhythm. Examples· Telephone operator, lathe operator, wrapper, bench assembly worker.

6. Unskilled:

Requires no technical knowledge and no minimum limit of mechanical ability, although the degree of the latter may in part determine the efficiency of the worker. Examples· Day laborer, street sweeper, lawyer, writer, public officials in nonmechanical occupations.

Six Categories of Social Intelligence

1. Persuasive—*face-to-face:*

Direct contact with the public in attempting to convince them or in some way directly influence the people in question Examples: Politician, life insurance salesman, bond salesman.

2. Managerial:

Requires ability to understand and control people, either as workers or as clients; must be able to inspire confidence and cooperation. Examples. Executive, factory manager, foreman, lawyer, physician, secretary.

3. Persuasive—*indirect:*

Seeks to convince or influence the public in other than direct, face-to-face situations; usually through media of communication such as the newspaper, radio, etc. Examples: Advertising-copy writer, publicity writer, radio speaker, actor.

4. Business contact and service:

Direct contact with the public in retail saleswork involving a small degree of salesmanship, or contact with the public for

the purpose of giving information or assistance   Examples·
Salesclerk, information clerk, hotel clerk, theater usher.

5. Rank-and-file workers:
Require only ability to get along with supervisors and fellow
workers   Examples Day laborer, factory worker, office
clerk

6. A-social occupations
No public contact; individual work usually requiring special-
ized skills and knowledge. Examples Watchmaker, book-
keeper, night watchman, mathematician, technical labora-
tory research worker.

Six Categories of Musical Talent

1. Creative and interpretative:
Requires highest degree of musical talent, which may be mani-
fested either in original compositions or in original interpre-
tation of music   Examples Composer, concert artist, sym-
phony conductor.

2. Higher professional occupations:
Require musical talent and knowledge of high degree, also a
certain amount of interpretative ability, but not a high
degree of originality. Examples Soloist in symphony or-
chestra, director of famous choir, teacher in conservatory
or in university

3. Technical occupations:
Require somewhat above the average amount of musical talent,
but mainly a high degree of technical knowledge and well-
developed musical discrimination. Examples. Arranger of
music, music critic.

4. Lower professional occupations·
Require an average amount of musical talent and some tech-
nical knowledge—the average professional musician. Ex-
amples Player in dance orchestra, music teacher (in grade
school).

5 General and mechanical occupations
Require a small amount of musical talent, but a greater degree
of either general musical information or mechanical knowl-
edge and skill   Examples Retail dealer in music, clerk in
a music store, repairman of musical instruments, instrument
tester in a factory.

6 Nonmusical occupations:
Presence or absence of musical talent does not influence this
type of work. Examples Lawyer, day laborer.

Six Categories of Artistic Ability

1. Inspired art:

    Requires highest degree of creative ability; highly original and individual work, reflecting the ideas and personality of the artist. Examples: Sculptor, artist, etcher (each having high national reputation).

2. Professional:

    Requires high degree of artistic ability and skill, usually applied to practical situations. Examples: Architect, teacher in art institute or university.

3. Commercial:

    Average commercial art work, requiring a fair degree of artistic ability and some originality; usually rather specialized work. Examples: Magazine illustrator, interior decorator, clothing designer, landscape gardener, advertising-layout work.

4. Crafts and mechanical art work:

    Requires some artistic ability, but mainly mechanical knowledge and motor skill. Examples: Potter, draftsman, weaver, sign and poster painter.

5. Routine work:

    Semiskilled or unskilled work in which artistic ability plays a very minor part. Examples: House painter, paperhanger.

6. Nonartistic:

    Artistic ability is not involved in these occupations. Examples: Lawyer, bookkeeper.

The ratings reported on the following pages represent the *median* category ratings supplied by the twenty or more raters. When a definite consensus was not apparent, no category rating is given; hence blanks occur here and there throughout the list of occupations.

THE RATING SCALES

Occupation	Abstract intelligence	Mechanical ability	Social intelligence	Musical talent	Artistic ability
Accountant, auditor, abstracter—private or public, 4 years college	2	6	5	6	6
Actor—average, in drama or musical production	3	6	3	4	
Actor—highest type professional actor	2	6	2	5	
Actor—vaudeville or variety, singing, dancing, etc . .	4	5	3	4	5
Advertising artist—illustrates advertisements	3		3	6	3
Advertising expert or advertising writer—plans and writes copy	2	5	3	6	
Apiarist—keeper of bees	4	5	6	6	6
Appraiser—estimates values for insurance companies, taxation, etc	3	5	4	6	6
Architect—training equal to college graduate	1	2	4	6	2
Arranger—of music—general, band, orchestra, or choir	3	6	5	3	6
Arranger—popular, for dance orchestra	3	6	5	3	6
Arranger of music—symphonic, for symphony orchestra	2	6		2	6
Astronomer—professor of astronomy in university or college	1	3		6	6
Athlete—professional, depends on this for income	4	4	4	6	6
Aviator, aeronaut—flyer, involves technical knowledge of aeronautics	3	2	5	6	6
Banker and bank official—executive head of fairly large bank	1	6	2	6	6
Banker and bank official—of small town or small bank	2	6	2	6	6
Bank teller—routine work, cashes checks, takes in deposits, etc	3	5	4	6	6
Bookkeeper—high-school, or business-college training	3	5	6	6	6
Broker—loan broker, or finance company official	2	6	2	6	6
Broker—pawnbroker, owns and operates shop	3	5	2	6	6
Broker and commission man—wholesale dealer in fruit, grain, livestock, etc	3	6	2	6	6
Broker and promoter—stocks and bonds	2	6	1	6	6
Builder or building contractor—in charge of construction	3	2	2	6	4
Buyer—for department store .	3	5	2	6	

THE RATING SCALES —*(Continued)*

Occupation	Abstract intelligence	Mechanical ability	Social intelligence	Musical talent	Artistic ability
Buyer—for hardware store .. .	3	4	2	6	6
Cartoonist—newspaper or magazine	3	4	3	6	3
Caterer—owner, in charge of directing the catering service .	3	5	2	6	
Chemist, industrial—thorough knowledge chemistry of manufacturing processes .. .	1	2	6	6	6
Choir director—in large city church .	3	6	2	2	6
Compiler—of census, bibliographies, etc	3	6	6	6	6
Composer—of classical and concert music	2	6		1	6
Composer—of popular songs	3	6		3	6
Concert artist—high-class vocalist or instrumentalist ..	2		3	1	
Conductor—of high-class concert band or theater orchestra	3		2	2	
Conductor—of popular dance orchestra	4	5	2	3	6
Conductor—of symphony orchestra	2	5	2	1	
Dancer—high-class interpretative dancing	3	5	3		3
Dentist—great, in city	2	2	2	6	6
Dentist—2-5-yr experience in small town	3	2	2	6	6
Designer—automobile bodies and accessories	3	1		6	3
Designer—fine jewelry and silverware	3	2	6	6	3
Designer—furniture and house furnishings	3	2		6	3
Designer—high-grade millinery .	3	4		6	3
Designer—high-grade women's clothing	3	3		6	3
Designer—machinery and motors	2	1	6	6	4
Designer—printed textiles . .	3			6	3
Designer—ready-made clothing for men and women .	3	3		6	3
Designer—stage settings for plays, operas, etc.	2	2		5	2
Designer—tapestries, carpets, and rugs	3	3	5	6	3
Designer—wall paper	3		5	6	3
Detective—traces clues; employee of detective bureau	3	4	2	6	6
Druggist, pharmacist—college graduate	2	4	4	6	6
Editor, publisher—large city paper, or head of national magazine	1	5	2	6	6
Editor—small paper; considerable job work	2	3	3	6	6
Educational administrator—superintendent or principal of school .	2	5	2	6	5
Employment manager, personnel manager—college graduate or equivalent education	2	5	2	6	6

THE RATING SCALES —*(Continued)*

Occupation	Abstract intelligence	Mechanical ability	Social intelligence	Musical talent	Artistic ability
Engineer, architectural—college graduate	1	2	3	6	2
Engineer, civil—4-5 yr. college training, plans and constructs roads, bridges, etc .	1	2		6	
Engineer, consulting—in charge corps of engineers . ..	1	2	2	6	5
Engineer, electrical—college training	2	2		6	6
Engineer, locomotive—freight or passenger train	3	2	5	6	6
Engineer, marine—runs engine on large ship	3	2	5	6	6
Engineer, mechanical—designs and constructs machines and machine tools	1	1	5	6	4
Engineer, mining—thorough knowledge mining and extraction of metals	1	2	5	6	6
Engineer, technical—thorough knowledge industrial processes .	1	1	5	6	6
Executive—minor, in business or manufacturing	3		2	6	6
Floriculturist—grower of ornamental flowering plants	4	4	5	6	4
Forest ranger—looks for forest fires, etc ..	4	4	6	6	6
Gardener—landscape . .	4	3			
Geologist—locates ore deposits, oil fields, etc , employed by mining company	2	3	6	6	6
Hotel keeper—owns or manages average hotel	3	5	2	6	6
Hotel manager—manages large hotel in city	2	5	2	6	6
Illustrator—books, magazines, newspapers . .	3	4	3	6	3
Insurance agent—sells policies for a company .	3	6	1	6	6
Interior decorator—requires ability in drawing, knowledge of color harmony, designing, etc	3	3	3	6	3
Inventive genius—Edison type . . .	1	1	6	6	
Inventor—of commercial appliances . .	2	1	6	6	5
Journalist—high class; writes feature articles for newspapers and magazines . . .	1	6	3	6	6
Judge—municipal, district, and federal courts	1	6	2	6	6
Justice of peace—in small town	3	6		6	6
Land owner and operator—very large farm or ranch	2	4	2	6	6
Landscape artist—depends on this work for income	3	4	3	6	3
Lawyer—average civil or criminal lawyer	2	6	2	6	6
Lawyer—eminent	1	6	1	6	6
Librarian—for symphony orchestra; has charge of music scores	3	6	5		6

The Rating Scales —(*Continued*)

Occupation	Abstract intelligence	Mechanical ability	Social intelligence	Musical talent	Artistic ability
Librarian—in small institution or public library	3	5	4	6	6
Manager or superintendent—average-size factory	2		2	6	6
Manufacturer—employs from 10–50 men, makes small articles	3	3	2	6	6
Merchant, great—owns and operates million-dollar business	1	5	2	6	6
Merchant, great wholesale—business covers one or more states	2	6	2	6	6
Music critic—for large newspaper or magazine	2	6	3	3	
Music publisher—manager of company	2	6	2	3	6
Oculist—treats diseases of the eye	1	3		6	6
Officer—army	2	4	2	6	6
Officer—ship	2	3	2	6	6
Official or inspector—city or county	3		2	6	6
Official—manufacturing, head of large company	1		2	6	6
Official—of insurance company	2	6	2	6	6
Official or inspector—state and federal, cabinet officer, diplomat, etc	1	6	2	6	6
Official or superintendent—railroad	2	3	2	6	6
Operatic director—produces and directs grand operas	2	4	2	1	
Organist—in large city church	3	5		2	6
Organist—in large city theater	3	5		3	6
Osteopath—training equal to college graduate	2	3		6	6
Painter of murals—for public buildings	3		3	6	1
Physician or surgeon—6-8 yr post-high-school training	1	3	2	6	6
Portrait painter—high-class artist	2	3	3	6	1
Preacher, clergyman, minister—average, college graduate	2	6	1	5	6
President—college	1	6	2	6	6
Probation and truant officer	3	6	2	6	6
Professional musician—in high-class concert band or theater orchestra	4	3		3	6
Professional musician—player in dance orchestra	4	4	4	4	6
Professor—university, M A or Ph D, writes, teaches, does research	1	4	2	6	6
Radio artist—plays or sings on national broadcast programs	3	6	3		6

THE RATING SCALES.—(*Continued*)

Occupation	Abstract intelligence	Mechanical ability	Social intelligence	Musical talent	Artistic ability
Research leader—like Binet, Pasteur, etc	1	3	6	6	6
Scientist—applied, bacteriology, psychology, etc	1	3		6	6
Sculptor—great, national reputation	1	2		6	1
Secretary—private secretary to high government official, business or professional man	2	5	2	6	6
Showman—manager of theatrical production	3	5	3	6	4
Singer—in musical production, opera, musical comedy	4	6	3	3	5
Social worker—routine work, writes case histories, etc ; special training required	3	6	2	6	6
Social worker—supervisor, head of department, college training required	2	6	2	6	6
Statistician—engaged in original research in statistics; college training in mathematics necessary	1	5	6	6	6
Statistician—clerical worker; manipulates formulas under supervision	3	5	5	6	6
Surgeon—great, Mayo brothers, etc	1	2	2	6	6
Surveyor—transit man, city or county	3	3	5	6	6
Teacher, art—in grades	3	4	2	6	3
Teacher, art—in high school; 3–4 years of special training	2	3	2	6	3
Teacher, art—in college or art schools; trains pupils for careers in art	2	3	2	6	2
Teacher, athletics and dancing—special training required	3	4	2	6	
Teacher, college—has B A. or M A., not the most progressive	2	6		6	6
Teacher, grammar school—normal graduate; expects to make profession of teaching	3	5	2	6	6
Teacher, high school—college graduate	2	5	2	6	6
Teacher, manual training—special training necessary	3	2	2	6	4
Teacher, music—band instruments	3	3	2	4	6
Teacher, music—in college, practical work, trains for teaching of music or concert career	2		2	2	
Teacher, music—in college, theoretical, history and theory of music	1	5	.	2	6
Teacher, music—in grade school, teaches simple songs and fundamentals of music	3	5	2	4	6

THE RATING SCALES —(*Continued*)

Occupation	Abstract intelligence	Mechanical ability	Social intelligence	Musical talent	Artistic ability
Teacher, music—in high school, leads group singing, has charge of glee clubs, orchestras, bands, etc	2	4	2	3	6
Teacher, music—instrumental or vocal teacher in small town	3	4		4	6
Teacher, music—private lessons on piano, violin, or voice, training for concert work	3	4		2	6
Teacher, primary—no college training; 2 years special training	3	6	2	6	6
Veterinary doctor—special training, some college work . . .	2	3	4	6	6
Wholesale dealer—fairly small, includes exporter and importer . ..	3	5	4	6	6
Writer, author—great, Van Dyke, etc . .	1	6	3	6	
Writer, author—magazine articles or books, either fiction or nonfiction	2	6	3	6	6
Y M.C A official—secretary, etc	3	6	2	6	6

TABLE D.—GRADED AVERAGE WEIGHT OF MEN OF DIFFERENT STATURES AT VARIOUS AGES*

(Copied from Table IV of "Medico-actuarial mortality investigations")

Age, years	5 feet	5 feet 1 inch	5 feet 2 inches	5 feet 3 inches	5 feet 4 inches	5 feet 5 inches	5 feet 6 inches	5 feet 7 inches	5 feet 8 inches	5 feet 9 inches	5 feet 10 inches	5 feet 11 inches	6 feet	6 feet 1 inch	6 feet 2 inches	6 feet 3 inches	6 feet 4 inches	6 feet 5 inches
15	107	109	112	115	118	122	126	130	134	138	142	147	152	157	162	167	172	177
16	109	111	114	117	120	124	128	132	136	140	144	149	154	159	164	169	174	179
17	111	113	116	119	122	126	130	134	138	142	146	151	156	161	166	171	176	181
18	113	115	118	121	124	128	132	136	140	144	148	153	158	163	168	173	178	183
19	115	117	120	123	126	130	134	138	142	146	150	155	160	165	170	175	180	185
20	117	119	122	125	128	132	136	140	144	148	152	156	161	166	171	176	181	186
21	118	120	123	126	130	134	138	141	145	149	153	157	162	167	172	177	182	187
22	119	121	124	127	131	135	139	142	146	150	154	158	163	168	173	178	183	188
23	120	122	125	128	132	136	140	143	147	151	155	159	164	169	175	180	185	190
24	121	123	126	129	133	137	141	144	148	152	156	160	165	171	177	182	187	192
25	122	124	126	129	133	137	141	145	149	153	157	162	167	173	179	184	189	194
26	123	125	127	130	134	138	142	146	150	154	158	163	168	174	180	186	191	196
27	124	126	128	131	134	138	142	146	150	154	158	163	169	175	181	187	192	197
28	125	127	129	132	135	139	143	147	151	155	159	164	170	176	182	188	193	198
29	126	128	130	133	136	140	144	148	152	156	160	165	171	177	183	189	194	199

TABLE E.—GRADED AVERAGE WEIGHT OF WOMEN OF DIFFERENT STATURES AT VARIOUS AGES*

(Copied from Table IX of "Medico-actuarial mortality investigations")

Age, years	4 feet 8 inches	4 feet 9 inches	4 feet 10 inches	4 feet 11 inches	5 feet	5 feet 1 inch	5 feet 2 inches	5 feet 3 inches	5 feet 4 inches	5 feet 5 inches	5 feet 6 inches	5 feet 7 inches	5 feet 8 inches	5 feet 9 inches	5 feet 10 inches	5 feet 11 inches	6 feet
15	101	103	105	106	107	109	112	115	118	122	126	130	134	138	142	147	152
16	102	104	106	108	109	111	114	117	120	124	128	132	136	139	143	148	153
17	103	105	107	109	111	113	116	119	122	125	129	133	137	140	144	149	154
18	104	106	108	110	112	114	117	120	123	126	130	134	138	141	145	150	155
19	105	107	109	111	113	115	118	121	124	127	131	135	139	142	146	151	155
20	106	108	110	112	114	116	119	122	125	128	132	136	140	143	147	151	156
21	107	109	111	113	115	117	120	123	126	129	133	137	141	144	148	152	156
22	107	109	111	113	115	117	120	123	126	129	133	137	141	145	149	153	157
23	108	110	112	114	116	118	121	124	127	130	134	138	142	146	150	153	157
24	109	111	113	115	117	119	121	124	127	130	134	138	142	146	150	154	158
25	109	111	113	115	117	119	121	124	128	131	135	139	143	147	151	154	158
26	110	112	114	116	118	120	122	125	128	131	135	139	143	147	151	155	159
27	110	112	114	116	118	120	122	125	129	132	136	140	144	148	152	155	159
28	111	113	115	117	119	121	123	126	130	133	137	141	145	149	153	156	160
29	111	113	115	117	119	121	123	126	130	133	137	141	145	149	153	156	160

JOB ETIQUETTE INVENTORY

Prepared by Louise Snyder Johnson

1. If you are assigned to work with someone who irritates you, which course would you follow?

    a. Ask for a transfer to another department before the difficulty becomes too serious.

    b. Explain your problem to your supervisor and ask his advice.

    c. Tell your coworker that he is interfering with your success.

    d. Try to figure out the reasons and make some adjustment yourself.

    e. Suggest to this coworker that he should ask for a transfer.

2. If your supervisor chooses someone else for a promotion when you believe that you deserve the better job, what should you do?

    a. Go over his head to a superior to secure fair play.

    b. Ask your supervisor for suggestions of ways in which you can improve your status.

    c. Ask for a transfer to a department in which your talents will be appreciated.

    d. Tell your supervisor what you think of his unfairness so that he will not repeat this.

    e. Do nothing about it because you might make trouble for yourself.

3. If your supervisor blames you for something that you did not do, you should:

    a. Do nothing about it since any action is likely to cause trouble for you.

    b. Explain the facts to him.

    c. Force him to improve his system by telling others how unfair he is.

    d. Tell him that you do not like the way he treats you so that he will not do this again.

    e. Explain your unjust treatment to his superior and ask for a transfer.

4. When your supervisor asks you to do something that you do not know how to do, the best procedure would be to:

    a. Do it as well as possible in order to avoid exposing your ignorance.

    b. Ask someone else to do it for you.

    c. Ask your supervisor if you can do something else with which you are more familiar.

    d. Ask him to show you how to do it.

    e. Wait until you have time to find out how to do it without calling attention to your lack of experience.

5. If you overhear a supervisor blaming a friend for something that he did not do, you should.

    a. Consider the matter none of your business.

    b. Tactfully break into the conversation and explain to the supervisor that he is making a mistake.

    c. Sympathize with your friend over his unjust treatment and urge him to report it to the authorities.

    d. Tell the other men the facts so that they will not blame your friend.

    e. Try to discover who was really to blame.

6 If you find that you do not like your job as well as you expected to, you should:

    a. Ask for a transfer to another department, since one cannot succeed on work he does not enjoy.

    b. Put up with it, since anything that you do might cause trouble for you.

    c. Ask your fellow workers if they dislike it as much as you do, since misery likes company.

    d. Tell your supervisor that you prefer to do only certain types of work that interest you.

    e. Discover the possibilities of advancement and try to work toward these.

7. If your supervisor makes a statement about politics that you know is incorrect, you should:

    a. Argue the point with him so that he will be impressed by your thinking ability.

    b. Explain to the other men that he is mistaken, since it is never right to let a misstatement pass.

    c. Do nothing about the matter.

    d. Send him an anonymous letter informing him of the facts.

    e. Realize that you cannot trust his judgment.

8. If you hear that one of your coworkers is circulating untrue stories about you, you should:

a. Start talking about him so that he will realize how embarrassing it is.

b. Report the matter to your supervisor before it becomes more serious.

c. Accuse him of unfairness before the others so that he will be ashamed to continue this action.

d. Discuss the matter with him.

e. Ask for a transfer to another department so that you will not need to worry about such unjust treatment.

9. If one of your fellow workers is always borrowing and forgetting to pay you back, you should:

a. Report him to the supervisor before this tendency becomes more serious.

b. Continue to lend him what he wants because you cannot afford to make enemies.

c. Tell him before the others that you do not approve of his actions so that he will be ashamed to bother you again.

d. Refuse to lend him any more.

e. Report the debt to his wife, since she may have more influence on him and will be the one most affected if he gets into debt.

10. If your supervisor should become very angry, the best procedure would be to:

a. Get angry also in order that he will experience how it feels.

b. Ignore the outburst.

c. Suggest tactfully that he should control himself so that he will not get into trouble.

d. Report the incident to his supervisor so that he will realize his assistant's shortcomings.

e. Explain to your coworkers that you did nothing to agitate the supervisor so that they will not blame you.

11. If you think of a possible improvement in an operation, the best thing to do would be to:

a. Forget about it since it is none of your business.

b. Tell the other workers about it so that they will realize how competent you are.

c. Start using this new method if you are sure that it is an improvement.

  d. Ask your supervisor to incorporate it immediately.

  e. Place it in the company's suggestion box for study.

12. If you should find yourself with some leisure time while on the job, you should:

  a. Look around to see in what way you can be of assistance and help anyone who looks as if he needs it.

  b. Ask questions of those who are working so as to learn all you can.

  c. Ask your supervisor for additional work.

  d. Ask for a transfer to a department in which you think you would find more to do.

  e. Rest so that you can tackle the next job with more vim.

13. If, after persistent tactful effort, you find it impossible to get along with your supervisor, you should:

  a. Discuss the matter with his supervisor.

  b. Tell him that you think he should make an effort to adjust himself to you.

  c. Ask for a transfer to another department, explaining your reason.

  d. Stop cooperating with him until he realizes that you mean business.

  e. Talk to the other employees about it with the hope of getting him removed.

14. If there is someone in your department whom everyone dislikes, you should:

  a. Avoid him, since you too might become unpopular if you have anything to do with him.

  b. Go out of your way to play up to him, since he might be an administration stooge.

  c. Treat him as you do the others in spite of his reactions.

  d. Get the others to help you play practical jokes on him until he realizes that he must act differently.

  e. Report the matter to your supervisor.

15. If your supervisor has known you longer than the other workers and appears to favor you to the point where there is jealousy, you should:

  a. Tell your supervisor that he must change his practice because it is creating difficulties for you.

  b. Enjoy the distinction, as you may not have such an opportunity again.

c. Speak sharply to the supervisor before the others so as to erase any idea that you are pals.

d. Confer with your supervisor about it and ask his advice.

e. Talk openly about your distaste for the treatment so as to dispel the idea.

Scoring key 1-*d*; 2-*b*; 3-*b*; 4-*d*, 5-*a*; 6-*e*, 7-*c*; 8-*d*; 9-*d*; 10-*b*; 11-*e*; 12-*c*, 13-*c*, 14-*c*; 15-*d*.

TABLE F.—EMPLOYMENT INFORMATION FOR SELECTED OCCUPATIONS *

Selected occupations [n e c—not elsewhere classified]	Experienced workers					Employed workers, 1940					Women
				1940				Men — Class of worker			
	1910	1920	1930	Number	Percent unemployed	Total number	Percentage of all employed persons in the occupation	Private wage or salary workers	Government workers	Employers and own-account workers	Total number
	2	3	4	5	6	7	8	9	10	11	12
Professional and semiprofessional											
Medical and related fields											
Chiropractors	6,971	15,069	30,147	10,969	2.2	8,758	82.4				1,871
Healers and medical service workers, n e c	39,597	55,590	70,344	20,575	5.0	10,045	51.4				9,510
Dentists				70,601	0.7	69,074	98.4	2,420	1,140	65,490	1,047
Optometrists				10,357	1.2	9,702	95.4			5,400	475
Osteopaths	5,030	5,030	6,117	6,967	1.0	4,595	81.7	120	20		1,102
Physicians and surgeons	151,132	144,977	153,803	165,629	0.6	157,041	95.4	17,600	14,420	124,450	7,503
Pharmacists	82,327			83,167	4.2	76,131	95.9	59,580	2,750	35,540	3,216
Trained nurses and student nurses		149,128	254,189	371,065	4.1	7,509	2.1	4,700	2,740	580	349,277
Veterinarians	11,652	13,434	11,663	10,597	2.2	10,638	99.3	860	1,850	8,600	79
Engineering and technical fields											
Chemical engineers	6,930	6,695	11,970	11,600	4.1	11,031	99.6				39
Mining and metallurgical engineers				9,773	9.5	8,739	99.2				74
Civil engineers	52,031	64,660	102,086	89,042	9.7	89,171	99.8	33,060	43,440	4,580	101
Surveyors		26,806	57,259	16,444	15.9	12,243	99.2	4,500	7,990	1,150	101
Electrical engineers	15,125	39,550	57,617	55,667	4.3	53,103	99.7	47,780	4,760	1,420	164
Industrial engineers				9,303	5.3	9,230	99.2				74
Mechanical engineers	15,385	19,094	23,100	85,543	3.6	82,355	99.8	68,600	7,040	5,030	188
Architects	17,444			21,976	7.3	19,899	97.7	6,700	3,620	6,920	477
Aviators		1,417	6,585	6,299	6.7	5,828	99.1				51
Chemists, assayers, and metallurgists	16,598	33,600	48,009	60,005	5.0	55,371	97.1	46,960	4,400	2,050	1,654
Designers	11,788	15,410	20,508	23,614	9.7	13,643	63.9				7,691
Draftsmen	32,315	51,279	77,524	88,191	9.8	78,177	98.2	76,360	12,650	2,960	1,414
Radio and wireless operators				11,573	10.2	10,296	99.1				97

Occupation	1	2	3	4	5	6	7	8	9	10	11
Technicians and assistants, laboratory	15,825	33,741	62,524	67,158	6.2	41,487	65.9	27,520	27,500	100	21,511
Technicians, except laboratory	7,349	15,144	29,317	8,088	9.1	6,567	89.4				781
Educational and related fields											
College presidents, professors, and instructors				75,847	1.1	55,123	73.5				19,884
Librarians				38,607	5.9	3,801	10.5				32,546
County agents and farm demonstrators	4,324	6,600	4,590	10,721	4.5	5,845	57.1				4,396
Teachers, n e c	595,285	752,055	1,044,016	1,065,280	4.3	247,716	24.3	23,380	233,400	3,580	772,044
Other professional and semiprofessional occupations											
Actors and actresses				19,232	39.2	6,931	59.3	6,120	140	560	4,761
Dancers, dancing teachers, and chorus girls				13,773	18.6	2,180	19.4	17,780	8,340	5,580	9,033
Athletes				9,162	21.6	6,990	97.3				192
Showmen				6,773	21.3	4,493	84.2				840
Sports instructors and officials				24,546	13.0	17,484	81.9	39,880	1,200	10,000	3,786
Authors			12,325	14,126	16.4	8,027	67.9				14,750
Editors and reporters			61,694	63,493	8.3	43,503	74.7				3,148
Clergymen	115,658	124,725	145,871	140,077	2.5	133,449	97.7	133,440	480	800	2,114
Funeral directors and embalmers	20,734	24,469	34,132	39,590	4.1	35,856	94.4				4,187
Lawyers and judges	114,704	122,519	160,605	180,483	1.6	173,456	97.6	27,400	20,600	128,400	17,507
Artists and art teachers	34,094	35,390	57,253	62,485	16.8	34,478	66.3	20,740	1,440	11,600	59,456
Musicians and music teachers	140,503	131,467	166,694	161,536	20.0	69,800	54.0	41,760	7,780	19,540	44,809
Social and welfare workers	16,497	42,444	64,797	75,197	7.3	24,868	35.7	9,040	17,500	120	25,874
Religious workers				35,172	1.4	8,798	25.4				4,623
Photographers			32,805	37,641	10.5	29,078	86.3				25,010
Professional workers, n e c				90,492	7.2	59,002	70.2				9,147
Semiprofessional workers, n e c				80,131	11.7	61,584	87.1				8,601
Clerical and related occupations (not assigned to specific industry groups)											
Agents, n e c	5,706	12,739	82,256	92,341	4.0	80,040	90.3				27,922
Attendants, physicians' and dentists' offices			25,799	31,209	6.1	1,387	4.7				7,028
Attendants and assistants, library			2,010	20,203		1,955	21.8				
Bookkeepers, accountants, and cashiers	491,517	742,035	939,954	931,308	65.5	410,243	47.9	388,160	38,440	19,540	446,205
Ticket, station, and express agents	37,207	39,396	41,194	40,377	2.1	37,363	94.5				2,154
Collectors, bill and account	36,097	31,036	43,764	43,990	5.2	38,374	92.0				3,316
Office machine operators			36,182	64,178	6.9	8,284	13.9	5,260	2,340		51,454
Shipping and receiving clerks				229,737	8.9	200,669	95.9				8,668
Stenographers, typists, and secretaries				1,174,886	10.0	68,805	6.5	109,000	1,080	100	988,081
Clerical and kindred workers, n e c				1,973,604	10.5	1,134,933	64.3	53,360	15,260	600	630,471
Agriculture											
Farmers (owners and tenants)	6,182,368	6,387,358	6,012,012	5,265,271	3.0	4,955,624	97.0		1,360	4,959,280	151,097
Farm managers	52,811	96,940	70,583	37,503	1.6	36,091	97.8	36,160			812
Farm foremen				25,275	3.2	24,240	99.0				235
Farm laborers (wage workers)	2,658,771	2,217,265	2,606,004	2,312,035	17.8	1,803,924	94.9	1,796,720	9,000		96,491
Farm laborers (unpaid family workers)	2,637,549	1,548,182	1,472,013	1,193,240	2.4	941,841	80.8				223,279

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TABLE F.—EMPLOYMENT INFORMATION FOR SELECTED OCCUPATIONS.—(Continued)

Selected occupations	Experienced workers					Employed workers, 1940					Women
	1910	1920	1930	1940		Total number	Percentage of all employed persons in the occupation	Men			Total number
				Number	Percent unemployed			Class of worker			
								Private wage or salary workers	Government workers	Employers and own-account workers	
1	2	3	4	5	6	7	8	9	10	11	12
Mining											
Foremen, n e c			30,073	28,244	6 2	26,443	99 8				41
Inspectors, n e c			6,995	7,313	4 6	6,954	99 7				19
Mine operatives and laborers	882,587	982,470	887,434	824,093	21 0	649,226	99 7	621,380	1,440	19,540	1,787
Proprietors, managers, and officials, n e c			31,241	32,001	3 6	30,447	98 7	14,420	440	16,460	394
Occupations principally employed in construction											
Asbestos and insulation workers				6,309	13 4	5,464	98 6				75
Brickmasons, stonemasons, and tile setters	169,402	131,264	170,903	141,690	34 1	93,024	99 7	81,540	3,020	20 260	306
Stonecutters and stone carvers	32,515	20,110	20,828	14,286	36 3	9,065	99 5				41
Carpenters	808,949	878,505	920,132	766,213	27 1	556,918	99 8	403,420	16,800	131,320	1,395
Carpenters' apprentices			3,889	7,428	25 6	5,485	99 2				43
Proprietors, managers, and officials, n. e. c., construction			191,064	125,696	8 5	113,898	99 0				1,095
Foremen, n. e. c., construction			45,326	74,663	39 0	45,394	99 7	23,640	25,100		129
Inspectors, n e c, construction				5,190	14 3	4,336	97 4				114
Painters, construction and maintenance	25,577	18,746	441,390	442,659	27 2	319,948	99 3	196,480	9,900	141,900	2,211
Paperhangers			28,328	29,994	15 3	23,877	94 0				1,537
Glaziers				7,648	13 1	6,547	98 5				101
Plasterers	47,682	38,255	70,053	52,878	26 3	38,792	99 6	38,260	1,520	12,520	166
Cement and concrete finishers		7,773	15,736	26,682	50 6	13,134	99 6				48
Plumbers, and gas and steam fitters	146,821	204,651	235,436	210,815	17 5	173,385	99 7	118,320	8,700	46,220	530
Plumbers' apprentices			5,689	5,311	12 8	4,518	97 6				113

Note: This page is a rotated continuation of a statistical appendix table; no column headers are printed on this page.

Occupation											
Roofers and slaters	14,078	11,378	23,636	32,720	25.1	24,432	99.6	80,420	5,940	17,830	88
Tinsmiths, coppersmiths, and sheet-metal workers	60,431	75,718	84,261	91,595	13.1	79,283	99.6	24,180	2,040	860	332
Structural and ornamental metalworkers				38,631	27.6	27,769	99.3				182
Occupations principally employed in manufacturing											
Food and kindred products											
Bakers	83,258	91,084	130,944	144,296	10.6	119,039	92.2	98,160	1,340	21,120	10,017
Foremen, n e c			23,119	30,355	3.9	25,919	88.8				3,256
Millers, grain, flour, feed, etc			15,787	15,608	5.5	14,667	99.5				81
Textile-mill products											
Dyers	22,919	23,039	19,489	24,898	11.7	21,334	97.1				644
Foremen, n e c			43,570	49,073	10.8	31,298	71.5				12,455
Loom fixers			18,639	24,694	9.2	22,318	99.6				96
Lumber, furniture, and lumber products											
Cabinetmakers	42,311	45,966	58,476	58,837	14.0	50,236	99.3	67,960	4,120	10,500	361
Pattern and model makers, except paper	24,973	29,383	31,535	33,033	5.3	31,027	99.2				246
Foremen, n e c			25,521	23,473	4.2	22,015	97.9				478
Inspectors, scalers, and graders, log and lumber				16,558	12.6	14,116	97.5				362
Sawyers	44,992	35,161	37,507	46,915	10.2	41,864	99.4				271
Upholsterers			42,191	42,585	10.7	36,191	95.1				1,854
Printing, publishing, and allied industries											
Apprentices, printing trades			9,912	10,020	6.6	9,140	97.6				220
Compositors and typesetters	125,033	187,362	179,959	174,312	9.3	150,647	95.3	129,100	2,580	17,400	7,425
Electrotypers and stereotypers	4,324	5,439	7,746	8,251	3.4	7,893	99.0				78
Engravers, except photoengravers				8,571	8.6	7,242	92.0				629
Photoengravers and lithographers	21,884	23,042	28,022	22,541	6.9	20,548	97.9				433
Pressmen and plate printers	21,088	19,617	32,776	35,777	8.0	32,389	98.5				508
Foremen, n e c			19,027	19,469	3.4	16,741	89.0				2,068
Metalworking and related industries											
Blacksmiths, forgemen, and hammermen			42,435	87,166	17.1	72,034	99.7	41,780	3,040	25,440	212
Boilermakers	30,492	30,503	35,202	32,982	16.1	27,589	99.7	25,460	1,340	640	73
Buffers and polishers, metal				45,035	12.0	37,609	94.9				2,026
Filers, metal	8,441	17,682		10,052	3.2	9,027	95.3				445
Foremen, n e c			109,868	112,939	10.2	107,924	97.7				2,575
Furnacemen, smeltermen, and pourers			20,855	33,932	7.5	30,225	99.2				247
Grinders, metal			25,729	46,902	6.3	41,846	98.5				646
Heat treaters, annealers, and temperers	9,611	15,640	14,195	10,877	16.8	10,122	99.3				75
Heaters, metal				11,081		9,085	98.5				136
Jewelers, watchmakers, goldsmiths, and silversmiths	30,945	37,612	36,729	36,332	8.5	31,957	96.1				1,495
Machinists				521,093	8.4	472,769	99.0	566,660	30,500	6,920	4,604
Millwrights	17,442	37,669	42,012	43,595	9.0	39,566	99.8				89
Tool makers, and die makers and setters			94,442	96,335	4.3	92,371	99.6				374
Machinists' apprentices			10,848	14,198	4.4	13,505	99.5				73
Molders, metal				87,624	13.4	75,559	99.5	74,300	560	320	345
Rollers and roll hands, metal	17,487	23,808	29,227	30,447	12.8	26,439	99.6	26,360			108
Welders and flame-cutters				139,281	10.4	122,688	98.4	111,380	4,760	5,220	2,063

TABLE F.—Employment Information for Selected Occupations.—(Continued)

Selected occupations	Experienced workers					Employed workers, 1940					
	1910	1920	1930	1940 Number	1940 Percent unemployed	Men Total number	Men Percentage of all employed persons in the occupation	Men Private wage or salary workers	Men Government workers	Men Employers and own-account workers	Women Total number
1	2	3	4	5	6	7	8	9	10	11	12
Occupations principally employed in or related to transportation, communication, and other public utilities											
Baggagemen, transportation	34,417	37,002	34,914	6,099	2.3	5,959	100.0	10,140	17,040	40	117
Express messengers and railway mail clerks				22,337	1.9	21,800	99.5		360		
Brakemen and switchmen, railroad				116,732	8.0	107,432	100.0	106,880			
Chauffeurs and drivers, bus, taxi, truck, and tractor	279,604	463,633	1,173,796	1,339,888	16.3	1,115,157	99.5	1,209,420	104,920	175,180	5,951
Deliverymen	56,932	63,760	36,699	428,153	9.5	384,815	99.4				2,498
Conductors, bus and street railway	65,604	74,539	73,332	17,785	4.9	16,751	99.1	14,780	1,440		154
Conductors, railroad				47,465	2.7	46,185	100.0	46,780	60		
Foremen, n e c											
Communication	3,574	6,344	10,407	8,474	1.2	8,153	97.4				221
Miscellaneous transportation			11,566	11,498	3.3	11,038	99.3				80
Railroads (including railroad repair shops)			80,394	49,573	3.1	47,912	99.8				101
Street railways and bus lines	4,953	6,623	6,177	4,203	1.0	4,143	99.5				20
Utilities				21,931	2.4	21,120	98.6				291
Inspectors, n e c											
Communication and utilities	27,938	43,148	39,470	8,249	2.4	7,234	89.9				815
Railroads (including railroad repair shops)			5,616	29,496	3.9	28,261	99.7				75
Transportation, except railroad				5,226	2.7	5,005	98.4				81
Linemen and servicemen, telegraph, telephone, and power	108,588	124,805	107,591	110,816	5.7	103,501	99.0	101,100	4,740		995
Locomotive engineers	76,381	91,345	114,351	72,396	4.0	69,496	100.0	68,480	240		
Locomotive firemen			67,096	48,851	10.2	43,851	100.0	43,520	60		

Occupation	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Mechanics and repairmen											
Airplane				5.8	28,384	99.6	26,607				117
Railroad and car shop				8.6	43,998	100.0	40,218				
Motormen, street, subway, and elevated railway	56,218	62,959	57,969	4.2	38,380	99.5	36,572				188
Officers, pilots, pursers, and engineers, ship	43,563	47,065	46,834	11.6	35,155	99.7	30,978				97
Proprietors, managers, and officials, n. e. c.											
Communication				0.4	23,361	86.1	20,030				3,231
Miscellaneous transportation				2.7	13,303	96.2	12,451				492
Railroads (including railroad repair shops)				2.1	32,242	99.1	31,561				281
Street railways and bus lines			20,153	2.1	5,827	97.1	5,543				164
Taxicab service			10,559	1.8	2,892	95.3	2,699				133
Trucking service			34,182	1.0	27,163	96.9	25,850				819
Utilities			43,352	2.4	29,747	98.0	28,850				597
Warehousing and storage			7,980	23.3	7,599	97.5	7,234				185
Sailors and deck hands, except U. S. Navy			61,457	6.5	46,078	99.6	35,221	31,000	2,900	280	137
Telegraph operators	44,156	52,066	53,579	4.1	42,562	79.3	31,554	32,080	360	80	8,228
Telephone operators	97,731	190,006	248,817		208,319	5.4	10,697	9,180	1,060		189,002
Occupations principally employed in trade, service, and related industries											
Advertising agents				5.5	35,692	89.3					3,602
Attendants, filling station, parking lot, garage, and airport				8.9	234,095	98.2	209,449				3,866
Auctioneers	4,511	4,968	3,767	7.4	3,537	95.6	3,134				143
Automobile mechanics and repairmen	9,786		374,215	14.7	441,845	99.7	375,796	78,740	660	131,220	1,189
Barbers, beauticians, and manicurists	195,124	216,095	393,558	5.5	440,111	50.3	209,439	205,440	540	620	206,592
Buyers and department heads, store			45,307	4.0	96,394	74.7	51,935				17,581
Canvassers and solicitors			22,490	6.5		81.0	72,995				17,099
"Clerks" in stores				10.0	525,591	57.5	271,890	54,200	340	17,660	201,281
Country buyers and shippers of livestock and other farm products			24,582	4.7	40,416	98.7	38,007				
Credit men				3.7	31,110	87.8	26,307				509
Decorators and window dressers			7,759	8.6	29,818	77.4	21,106				3,643
Demonstrators				14.8	10,521	17.4	1,558				6,152
Dressmakers and seamstresses (not in factory)			194,807	17.6	165,031	1.7	2,324				7,403
Floormen and floor managers, store			8,925	4.2	7,173	68.0	4,672	1,380	1,300		133,627
Foremen, n. e. c.											2,201
Business and repair services				1.0	6,164	96.5	5,892				212
Personal services				5.4	7,400	61.6	4,314				2,686
Wholesale and retail trade				3.2	31,951	91.9	28,422				2,509
Fruit and vegetable graders and packers, except cannery				14.8	25,965	42.2	9,333				12,792
Inspectors, n. e. c., wholesale and retail trade			7,514	9.1	5,300	85.6	3,162				1,658
Insurance agents and brokers				4.1	249,322	94.5	226,061				13,081
Meatcutters, except slaughter and packing houses	87,578	118,719	254,358	10.1	156,892	99.3	140,088	177,980	240	52,220	984
Milliners (not in factory)			10,904	9.0	12,375	5.8	650				10,505
Motion picture projectionists				6.4	23,375	98.9	22,099				256

TABLE F.—EMPLOYMENT INFORMATION FOR SELECTED OCCUPATIONS —(Continued)

Selected occupations	Experienced workers 1910	1920	1930	1940 Number	1940 Percent unemployed	Employed workers, 1940 — Men Total number	Percentage of all employed persons in the occupation	Class of worker — Private wage or salary workers	Government workers	Employers and own-account workers	Women Total number
1	2	3	4	5	6	7	8	9	10	11	12
Occupations principally employed in trade, service, and related industries —Continued											
Photographic process workers				15,102	4 6	8,951	62 1				5,471
Piano and organ tuners	6,633	7,047	6,823	5,219	7 3	4,794	99 1				45
Proprietors, managers, and officials, n e c	139,371	114,288	178,638								
Business and repair services				88,231	1 9	82,288	95 0	25,860	120	171,700	4 303
Eating and drinking places				273,153	2 8	200,519	75 5	137,840	2,580	35,500	65,064
Finance, insurance, and real estate				190,603	1 9	174,663	93 4	25,140	100	64,980	12,300
Personal services				126,387	2 5	91,572	74 3				31,655
Wholesale and retail trade, except eating and drinking places	1,278,071	1,423,018	1,800,181	240,686	2 6	227,334	97 0	87,280		140,400	6,992
Wholesale trade				{1,686,196	3 0	1,459,192	89 2				176,704
Retail trade (including pharmacists, milliners, not in factory, and meatcutters, except slaughter and packing house)											
Retail trade (excluding above occupations)				1,493,762	2 1	1,242,323	88 5	252,020	1,540	989,630	161,999
Purchasing agents and buyers, n e c				33,359	5 4	29,966	91 8				2,593
Real estate agents and brokers			28,124	116,990	5 0	100,856	90 8	38,260	60	61,550	10,254
Salesmen, finance, brokerage and commission firms				20,307	7 9	18,327	98 0				380
Salesmen and saleswomen, n e c				1,423,109	11 0	747,881	59 2				515,539
Shoemakers and repairers (not in factory)	68,856	78,003	75,602	65,675	8 3	59,609	99 0	14,980	200	42,940	586
Tailors and tailoresses	292,562	190,310	167,590	118,797	9 4	92,880	86 3				14,697
Furriers				17,155	18 9	12,142	87 3				{1 773
Traveling salesmen and sales agents				632,667	6 4	579,423	97 8	66,400	260	40,200	12,904

Occupation											
Government occupations											
Foremen, n e c	34,894	49,756	71,548	10,829	9 4	9,411	95 9				398
Firemen, fire department	79,852	90,509	120,106	78,822	1 3	77,782	100 0		77,360		1,524
Mail carriers				122,910	1 7	119,246	98 7		119,700		881
Policemen and detectives, government	27,849	31,935	34,421	130,958	2 4	126,977	99 3				16,381
Postmasters				39,160	1 4	22,239	57 6				} 17 515
Miscellaneous government officials, except postmasters	80,486	108,074	138,638	200,653	3 5	176,138	91 0		197,440		
Occupations not principally found in any single industry											
Blasters and powdermen				6,938	35 2	4,485	99 7				13
Firemen, except locomotive and fire department	116,782	151,069	133,659	127,455	11 3	112,612	99 7	99,700	14,100		383
Motormen (vehicle), mine, factory, logging camp, etc				17,988	6 9	16,709	99 8				39
Oilers, machinery			34,643	39,498	9 3	35,643	99 5				195
Painters, except construction and maintenance			90,557	100,726	11 6	82,768	93 0	77,380	300	2,580	6,258
Cranemen, hoistmen, and construction machinery operators				120,190	15 2	101,613	99 7	246,040	38,500	1,180	257
Stationary engineers			302,469	200,095	7 9	183,739	99 7				516
Electricians	119,039	210,834	277,514	227,102	13 2	196,526	99 6	152,720	17,040	27,160	696
Power station operators				22,345	2 0	21,285	97 2	18,520	1,740		620
Electricians' apprentices			4,370	3,430	10 5	3,046	99 2				24

SOURCES Columns 2, 3, 4, and 5 from Comparative Occupation Statistics for the United States, 1870 to 1940, Tables 2 and 3, pp 49–62   Column 6 computed by Bureau of Labor Statistics from Series P-14, No 13, All Experienced Persons in the Labor Force by Occupation and Industry for the United States 1940, Table 1, pp 3–8   Columns 7, 8, and 12 from The Labor Force, Part I, U. S Summary, Vol III, table 58, pp 75–80   Columns 9, 10, and 11 from The Labor Force (Sample Statistics), Occupational Characteristics, Table 6, pp 110–120

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